

PAGES

MISSING

CANADIAN ARCHITECT AND BUILDER.

Vol. XIII.—No 4.

APRIL, 1900

{ PRICE 20 CENTS.
\$2.00 PER YEAR.

—THE— CANADIAN ARCHITECT AND BUILDER.

A Monthly Journal of Modern Constructive Methods.

(With a Weekly Intermediate Edition—The CANADIAN CONTRACT RECORD).
PUBLISHED ON THE THIRD WEDNESDAY IN EACH MONTH IN THE INTEREST OF

ARCHITECTS, CIVIL AND SANITARY ENGINEERS, PLUMBERS,
DECORATORS, BUILDERS, CONTRACTORS, MANUFACTURERS OF AND DEALERS IN BUILDING
MATERIALS AND APPLIANCES.

The C. H. MORTIMER PUBLISHING CO. of Toronto, Limited,

Publishers,
Confederation Life Building, - TORONTO, CANADA.

Telephone 2362.

Branch Office: NEW YORK LIFE INSURANCE BUILDING, MONTREAL.

Bell Telephone 2299.

SUBSCRIPTIONS.

The CANADIAN ARCHITECT AND BUILDER will be mailed to any address in Canada or the United States for \$2.00 per year. The price to foreign subscribers is \$2.50. Subscriptions are payable in advance. The Journal will be discontinued at expiration of term paid for, if so stipulated by the subscriber; but where no such understanding exists, will be continued until instructions to discontinue are received and all arrears of subscription paid.

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Prices for advertisements sent promptly on application. Orders for advertisements should reach the office of publication not later than the 12th, and changes of advertisements not later than the 5th day of the month.

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IN consequence of the introduction of a bill in the Ontario Legislature last year, framed on the principles of the recent English Workmen's Compensation Act, Professor Mavor, of the University of Toronto, was commissioned to make enquiries upon the subject, when in England last summer, and present a report. The report, which is now ready, examines the working of laws relating to the subject in all the countries of Europe, and so far as any definite conclusion is suggested, points out the wisdom of waiting for some time "in order to ascertain more fully what has been the effect of the change of principle in the English laws, and to ascertain also whether further change in the direction of the German legislation or otherwise be not imminent in England." Amendments to the English act are already found to be indispensable. The new English act is based upon the old principle of employer's liability, with an "inversion of proof" which presses more heavily than before upon the employer. The presumption, which was formerly in favour of the employer, making it necessary for the workman to prove his claim for compensation, is now on the side of the workman; so that the mere fact of his having been injured while doing the employer's work, entitles him to compensation from the employer, unless the latter can prove that the injury was the consequence of "serious and wilful misconduct" on the part of the workman. The idea at the bottom of the original act was that by making accidents costly they would be prevented; but there is danger in making them too costly. The risk is too great to leave uninsured, and, if insured, the cost is already incurred and the motive to prevent accidents is gone. On the other hand, the

burden of insurance is too great for a small concern. The rates are high, as much as $\frac{1}{2}$ per cent. on the wages; and a small industry in which the annual wages amount to ten times the capital—an ordinary proportion—will have to pay an insurance rate amounting to 5 per cent. of the capital. An uninsured accident might wipe out the capital, and to insure is practically to occupy the capital; the Act is discouraging to small industries. It is for this reason, no doubt, that Prof. Mavor's report suggests the possibility of amendments to the act in the direction of German legislation. There the workman is compelled by law to contribute something himself towards the fund from which his compensation for injury is derived. The State has made sick clubs and other existing benevolent societies a part of its machinery, and compels both the workman and the employer to contribute, on the basis of wages, to these institutions. This has a somewhat socialistic appearance, but the essence of the matter—to secure compensation to the workman—can only be carried out thoroughly in some such manner; for only to give the workman facilities for a civil suit is to still leave compensation uncertain as long as there is the possibility of an insolvent defendant. It might do to combine with the English principle the French method which guarantees compensation by the State to an injured workman, leaving the State to recover from the employer if it can.

**Dangerous
Cesspools.**

THERE is danger impending in the Balmy Beach neighborhood, on the east of Toronto, because of the practice of building bottomless cesspools in close proximity to wells. The country in this part is full of springs. There is apparently a bed of clay under the whole neighborhood sloping towards the lake, and along this is spread a sheet of water soaking along from the level four or five miles back to the level of the lake. Every gully has a spring, and it is easy to tap the supply anywhere by sinking a well for twenty feet or so. Upon these springs and wells the district depends for water, and the danger of perforating the surface also with leaking cesspools is obvious. The individual householder, when this is pointed out to him, seeing that only a general agreement will do any good even if the damage is not already done, declines to trouble himself with a tight cesspool, but puts in an open one—on the lake side of his own well—and trusts to luck and the speedy introduction of city water.

It is time that the Toronto Guild of Civic Art made its voice heard. It is not only in carrying out works that an advisory body of this kind is necessary. There are continually projects in the air which want an impulse either for help or hindrance in the early stages of consideration. By the time a scheme gets to the point of execution there is nothing to be done but make the best of it; too much has been done to stop, whether it is a case of municipal action or of an inaction which has allowed private works to proceed and spoil an opportunity that might have been used for the public benefit. A body like the Guild of Civic Art which has no interest in public improvements but the public interest ought to express itself so as to formulate public opinion. The impulse towards public improvements should not be left to come from persons whose private business is served by making the improvement. Conspicuous improvements can, however, be left to take care of them-

selves better than the humble opportunities that are lost every day from inaction. A few years ago the corners of King and Yonge Street, Toronto, the north corners at least, might easily have been truncated so as to relieve the crowding of traffic and foot passengers at that point. Quite recently, since the establishment of the Guild of Civic Art, a permanent square cornered building has been planted on the north-west corner so as to bar that improvement. The same may be said as to the south-west corner of Yonge and Queen streets, which is becoming more crowded every year. The Victoria Square idea deserves some thought; but who is giving it thought? It was understood that the building of the Bryant Press was a bar to the project, as it was a good building. Now the Bryant Press building has been gutted by fire and there is no good building. It is now or never that the question must be settled. It is a financial question, but all the more for that reason will the Guild of Civic Art, which numbers among its members some prominent financial and business men, be listened to with respect, whichever way it inclines. The question of street cars through the Park is beginning to loom; that is to say, to an outsider it presents this appearance, but from the inner point of view it may be settlement that is looming. If public opinion is not quite clear upon the subject, the man who is clear that he wants to get the cars there will have what he wants established before the rest of the public knows what is happening. It may no doubt be assumed that every, or nearly every, proposed improvement has a good reason at its back, but in carrying it out some thought is necessary to make it serve beauty as well as convenience. Here is the field for a body which concerns itself with the beauty of the city. There ought to be in all cities a body of this kind to form public opinion, but it should be active.

**Co-operation in the
design of
a London Street.**

LONDON is to have a new street driven through from Holborn southward to the Strand. It is to be a street 100 feet wide, which, as it nears the Strand, will bifurcate, forming two branches each as wide as the original street. One branch will enter the Strand opposite to the approach to Waterloo bridge, the other at St. Clement Danes church, about a quarter of a mile further east, and the Strand between these two points is to be widened. The two branch streets will form a crescent, and, as the report of the London County Council states, "the land between this crescent and the Strand will form a most valuable building site." "To obtain the full value of this land," the report proceeds, "it is of the utmost importance that every regard should be had to the architectural features of the elevations of the buildings to front the new street, the crescent road, and the Strand." The Council accordingly advise the appointment of eight architects, four chosen by the Council and four by the Royal Institute of British Architects, who will be paid £150 each to submit a rather formidable list of drawings, consisting of $\frac{1}{32}$ inch scale elevations of street fronts something more than a mile long and 8/0 feet high to the cornice, with $\frac{1}{8}$ inch scale elevations also for about a third of it, sufficient sections to the same scale, and a bird's eye view if desired. The thing aimed at is harmony rather than similarity; and the style suggested is Palladian, freely treated and of a simple character, suitable to buildings which may be intended for commercial purposes. The Council has shown wisdom in rejecting

suggestions to make the competition open, without limit to the number of designs and with a premium only for the best design. They decided that if the competition were open they would probably lose the chance of the services of leading men, which by inviting a limited number they will probably obtain.

If the County Council would go a step further and invite the selected architects to co-operate instead of to compete, and should choose them with a view to this end, there would probably be a still greater security for the success of the scheme. This is not now a new idea on this side of the water. The grounds and buildings of the Chicago Exposition were planned by a number of men working in harmony and carried out in detail by individual effort; each man designing his own building, in conformity with certain fixed standards of cornice height, etc. The success of this effort impressed the architectural profession of the country at the time, and may perhaps have had something to do with establishing the co-operation, and very successful co-operation, of Messrs. Cope & Stewardson, Wilson Eyre, jr., and Frank Miles Day and brother, as designers of the Museum of Science and Art for the University of Pennsylvania. The result is a building of extraordinary excellence. Here the design is one, though there are many parts. In street design harmony only is required, and several hands with a common aim should be the very condition of success. There is some chance of a group of public buildings being erected by co-operation in Cleveland, in consequence of the efforts of the Cleveland Architectural Club. A government building, a city hall, a public library, and a county court-house and jail, all to be erected in the next few years and all apparently under the control of the same board, is an obvious opportunity for grouping, but when the idea is once received such opportunities appear to be more frequent than had before been thought. The American professional journals appear to look not so much to municipal enactments as to intelligent co-operation among architects for the redemption of big cities from want of character, and if any occasion comes such as has arisen in London, there is no doubt that this continual talk about co-operative design will bear fruit in the substitution of co-operation for competition. The London County Council have the matter in their own hands. They have only to appoint and the thing is done, for it is not likely that the R. I. B. A., which in its meetings promotes such free and enthusiastic discussion of questions of design, will not be able to produce eight good designers who can work together in generous co-operation.

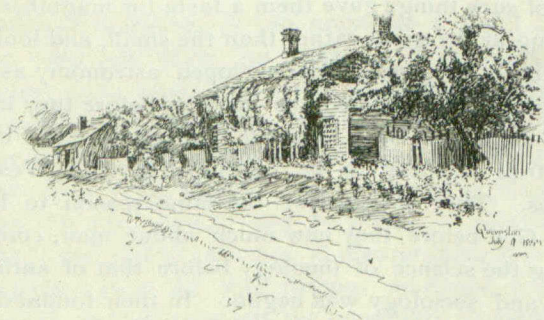
EASTERN ART.

THE most essential difference between Oriental and Western art is that in the East the people decorate the great, and in the West the small. Oriental grandeur consists in the magnificence of cities, gardens, and great sweeps of surface; whereas Western æstheticism delights in the details of statuary, canvas, plaques, and tidies. The East gave a wider sweep to the imagination. Sky and mountains were the nature which most interested the people, and not the shady nooks and frost-crystals. The shepherds of the Syrian plains, watching their flocks by night under the great dome of the heavens, watched at the same time the flocks of stars and the clouds that rolled above them, and the habitual

sight of such things gave them a taste for magnificence. Looking at the great rather than the small, and looking up rather than down, they developed astronomy as the first science, and studied the heavens before they knew much about the earth, leaving geology and the other terrestrial sciences to be developed by the Western peoples. They sought for the same reason to learn about God before they knew much about man, contemplating the science of theology before that of anthropology and sociology was begun. In their fondness for universals they speculated as philosophers before they observed as scientists, so that the world as a whole was known before its parts, and cosmologies and theories of the universe engaged their attention as fit companions for the grandeur of their artistic conceptions. The East early learned to commune with the great, and hence magnificence was its first product. A people which sees nothing less than mountains and skies cannot be content with the petty in art. Wild flights like those of the eagle and the lightning are more native to them. Like the Swiss and the Scotch, the highlanders of Palestine and Chaldea inherited a bold and free soul, and their imaginations were no tamer than the chamois which sported among the cliffs or the spirit of liberty there.

WEATHERCOCKS.

As the general use of the term weathercock might lead us to suppose, the form most frequently adopted for the flat plate, whose surface is exposed to the wind, is that of the cock. Those who think every detail in Gothic architecture typical assert this represents the cock that crowed on the occasion of St. Peter's denial. Pennons, banners, arrows, crests, representing various animals, are also frequently used. Small as these objects appear when viewed from the ground, they are often of considerable size. The highest finial on the Royal Courts of Justice, for instance, is really not less than 37 ft. in length, including the portion inserted into the fleche for security, and it weighs about three tons and a half. It has an ornamental ball at the base about 6 ft. 6 in. in diameter, with spikes 12 in. long, standing out all around it, four ornamental braces, which clip this ball and run down four sides of the fleche, and an open-work cross which measures about 7 ft. from point to point at the top, with a "cage piece" above it which is 3 ft. 6 in. in diameter. The chief material used in its construction is gun metal, though a main stem passing inside the gun metal tube, and for 20 ft. down into the fleche to hold it fast, is of wrought iron. On the tower below are eight small vanes, banner-shaped, and also made of gun metal, which weigh about 3 cwt. each. There are eight small flag or banner vanes on the pinnacles at the corners of the two large towers of Westminster Abbey. These are also made in gun metal, and each weighs about 1½ cwt. They are about 4 ft. 6 in. in height, and each forms a lightning conductor, being furnished with a copper band, which is carried down the tower. The vane with the gilded cock on the spire of All Saints church, Margaret street, is about 15 ft. in height, and weighs about 8 cwt. On West Vale Church, Halifax, there is a copper vane in the form of a cock. This bird measures 2 ft. 6 in. from beak to tail, though it looks little more than a bright speck from the ground, and the standard or rod on which it is placed, with its double cross and cardinal points, weighs 12 cwt., and measures about 15 ft. in height.



Queenston, Ont.—Sketched by A. A. Martin.

TORONTO CHAPTER OF ARCHITECTS.

A MEETING of the Toronto Chapter of the Ontario Association of Architects was held at McConkey's on March 20th, at which there were present as guests several members of the Eighteen Club. The proceedings partook of a social and informal character. There was some discussion on the Travelling Exhibition as inaugurated at the national convention of architectural societies held at Cleveland in June, 1899. It is proposed to make an effort to obtain this exhibition for Toronto in 1901, the members of the Chapter agreeing to join with the Eighteen Club in this movement.

Mr. J. Wilson Gray read a paper on "Modern Architecture" which had been presented before the Chicago Architectural Club by Mr. G. R. Dean. Mr. Gray stated that, although questioning the motto of "Progress before Precedent", as advocated by Mr. Dean, he regarded the paper as of much interest. Some discussion followed. The paper is published below.

A letter was read from the Plasterers' Union asking if the Architects' Association would receive a deputation from the Union to explain their views on the question of painters putting up staff work. It was decided to request the Union to present their views on the question in writing.

Mr. W. A. Langton tendered his resignation as representative of the Association on the Toronto Technical School Board, and Mr. F. S. Baker was appointed as his successor.

MODERN ARCHITECTURE.*

BY GEORGE R. DEAN.

THE term modern architecture may be variously applied. For the purpose of this paper I wish to limit it to its strictest meaning. When we speak of modern painting we refer to method rather than to time; it is in this sense that I desire to put the subject before you. That we may arrive at our position to-day it will be necessary to review the history of architecture in so far as other nations have had, at their time, a modern architecture.

Primitive man constructed for himself a shelter to in part shield him from the element which, in his climate, was his especial discomfort, or to protect him from his especial danger. The materials were such as, with his limited power, he could best and most easily put together. As he possessed more knowledge, as he became more co-operative, with his added force, he used stronger materials. He passed easily from the pliant reed to the sturdy forest tree—from the mud hut to the stone fortress. This material he found in nature; this material he used, naturally, as he found it. As his mind developed, he called to his aid science, which is knowledge. This he applied to his construction; with the aid of machines he moved larger masses and constructed stronger edifices. There were no limitations, except the limits of his knowledge and power.

This simple growth went on—the art following the development of the people, logical in the use of its materials, and conforming to the wants of man, growing in strength and beauty as the race gained power—as different in one race as its climate or needs differed from another's. This law controlled until the fifteenth century.

Let us return to primitive man and follow the decoration he

*Paper read before the Chicago Architectural Club.

applied to this construction. As he developed more fully, as he acquired more easily the necessities and comforts of life, he had more leisure for the ornamentation of his shelter. Actuated by the inborn love of beauty, stirred up by the desire to show his position among his fellows, stimulated by his ambition to outdo his neighbors, this ornamentation increased, in quality first and quantity second, until he arrived at what we call his best period. It is that period which produced the highest in art, the grandest in literature, the most just laws and the greatest physical condition of the race. From this point the ornament increased in quantity and decreased in quality as the race became more ostentatious—as it sought new or novel effects; weaker in blood as it forsook the laws of nature, which, by observing, it had built itself up, until, corrupt and degenerate, it was swallowed up by a race of later development.

What was this ornament? In general, one may say of any ancient race: Bring me what it loved and I will construct for you its ornament. The peaceful agricultural race took its ornament from the field and the domestic animals. The race that lived by hunting took its ornament from the native fauna and the animals used in the chase; the warlike, from its victories, the religious from its gods. In each race are all these, in about the ration of their prominence in the race.

Much time has been spent in trying to discover a chain of ornament to prove that all architecture has been dependent on that gone before. Books have been written to show how the ornament of one nation has been introduced by another. Since everything done has its influence on what follows, there is necessarily something true in this development of one style from another. Certainly it is true of those styles which have been imported, which, although called by other names, are simply continuations of former styles; but in what may be called "vital styles" this influence is very much overestimated.

The fact that an ornament is similar in two countries does not prove that one is copied from another; similar conditions produce similar results. The fact that only such ornament as applied to its conditions was retained in any race if imported, is strong proof that it might as easily have been originated, for it shows the discerning power of the race and the love it had for a logical ornament as well as for a logical construction. For the purposes of our line of thought it matters not how this ornament was obtained. The fact remains that the ornament used was an ornament which appealed to those who viewed it—that it was vital, in the life, and of the life, of the people; it was the conventionalization of what they saw and loved in their daily life, or what touched them deeply in their history or religion.

If we look into the ornament of any of the great vital styles, this truth is forced upon us.

The Egyptian's tomb was his religion; on it he recorded his life—portraits of himself and family, representations of his gods, scenes in his life and home, his domestic animals, his horses and chariot. In the purely decorative portions he used his native flowers, notably the lotus, his national flower—the flower with which he approached his gods and with which he crowned himself at his feasts.

Architecture was the only art considered worthy of the upper class; for this reason there was no sculpture, as we use the term. It was all subservient to architecture, and adorned it. That the architectural scheme might not be destroyed, the sculpture was deeply conventionalized; realism being thus eliminated, feeling or the essence of the subject sculptured was developed to a wonderful degree, and the Egyptian has left to us the finest examples of the idealization of animal forms that any age has produced.

The Persian, through his love for the chase, adorned his architecture with hunting scenes and the native wild flowers. That the sculptor knew well his subject, there can be no doubt. The majesty of the lion and the swiftness of the greyhound are drawn with equal power and truth to nature, the conventionalization eliminating all except that quality which was the dominant one. Of the flora, we find principally the rose and the lotus. Persia is the land of roses—nowhere else do they attain such glorious perfection. The lotus was native to the soil and held in religious veneration.

If we accept the position that architecture and architectural forms passed from Egypt to Persia and Greece, it is interesting to note that the lotus, which the Persian knew and admired, continued to hold a prominent place; while in Greece, where it was not, except in one inferior variety, it was soon lost as a flower,

though it may have exerted a strong influence in determining some of the architectural forms.

The Greeks were a race peculiar, in that they were in a sense without a native land. They lived in the acts of their ancestors, and wherever they settled, even after many generations, were more loyal to their ancient heroes than to the land of their birth. Their Bible was the Iliad and Odyssey. In their early ornament, the greater part is the representation of scenes in the lives of their deified heroes. In most cases the sculptured ornament refers directly to the purposes of the building. In the purely decorative portions we find the native plants, especially the palm which grew in the neighborhood. It is found throughout their architecture, and used much the same as the Egyptians used the lotus. Although the palm has religious and historical interest for the Greeks, it is not safe to say that it was used on this account alone, for we find other plants almost, if not quite, as common, such as the honeysuckle and acanthus, which appear to have had little signification.

The essential property of the Greek ornament is its national and contemporaneous character. Everything was in artistic keeping with the life and dress of the people who stood about it. There was no attempt to resort to novelty by depicting the animals or dress of other nations. It was the Greek's idea of the "eternal fitness of things" which made his architecture what it is. The ornament is much more realistic than the Egyptian's, principally by reason of the high esteem in which the art was held. Since the sculptor was equal with the architect, his work took equal part with it, and the building was as much a pedestal on which to place the ornament as the ornament was the adorning of the building.

If we take a long step and consider the Gothic, we will have before us, perhaps, the latest vital style. The Gothic has been traced by the architectural historian directly from the classic. From his point of view, this is doubtless true. But, so rapid and thorough was the eliminating process carried on, that in its best period we find them absolutely dissimilar in form and feeling. The people were a religious race—probably as intensely so as any the world has ever seen. Its pictorial ornament was its religion; its floral decoration was the nature taken from its gardens and fields. Anything capable of decorative form was thought worthy of a place on its most glorious edifices. In many cases the ornament does not appear to have had especial signification, and yet the flower language at that time was so highly developed that exhaustive study might bring out very interesting results. In some cases the application is very marked, as the use of the lily, a flower dedicated to the Virgin, in the lady chapels in the twelfth and thirteenth centuries, and from that time becoming a striking architectural decoration.

An interesting application of our subject is in the use of the palm in Gothic. We find it in very early work in its classical form; not existing in nature in the country. It soon disappeared and was suddenly revived when the Crusaders returned, bringing large quantities from the Holy Land.

If we study the history of painting and sculpture, we will find this same steady growth, and with architecture we will find them at a standstill in the fifteenth century. This sudden change in the artistic world must have been caused by some great power which had a direct influence on the creators. We will find it at the exact period where we should expect it. That the decline of the art began with the invention of the printing press is no mere coincidence—one is the direct result of the other. A great and sudden impetus was given literature by this acquisition. The great minds of the day pressed into the field. All the great works of antiquity were described and put into concise form. Not content with this, literature proceeded to lay down rules for their imitation. She dictated the colors to be used in painting; she insisted that the sculptor should pose his models thus and so, or copy those things done before; she laid down laws for science and forbade investigation in certain lines; she furnished a set of measurements for architects—not in general, but to the width of a line for every portion of every building.

For three hundred years all progress in the arts was stopped. Painters spent their time copying work better done before, or putting into the eye of man that which had already been done by the ear. Architects, most deluded of all, reared buildings from descriptions and covered them with decoration, the originals of which in nature they had never seen. Since that time, each young mind, full of a desire to interpret the great truths which have come to him as, in communion with her, he has drunk in the beauties of nature, has been forced to have his senses blunted, his imaginations drowned, his very talents

stunted, by a constant repetition of forms he does not understand, the originals of which in nature he has never seen, and which in maturer years he admits to himself are essentially bad. Within this century the other arts have one by one returned to the great mother, nature, for inspiration.

If space permitted, it would be interesting to follow the emancipation of the various arts from the rules and limitations so long accepted; the conflict has been very similar in each, and one will answer as an example. Early in this century the illustrators for comic and other papers, through the necessities of their vocation and through their observations of nature, showed to others something of what might be done with contemporary life. This phase of art was taken up and followed by the "Little Masters," so called, who were men without much training, and had little to lose in the then correct art. These men produced little of value, principally because of their lack of mental vigor and training. Men of ability, until Delacroix, followed the accepted canons of art. Delacroix, the leader of the Romanticists, broke away from the classic school, yet with his followers took his subjects almost entirely from literature.

David, the opponent of Delacroix, backed as he was by a great emperor, did much to delay the progress of the new school, and it was left to Millet and the men of his day to depict the life about them and show what beauty nature holds out to those who love her. Color, however, was not sought out in the same spirit. The artist recognized that in most cases pure local color produced a color scheme crude and unbalanced.

It remained for Manet to discover the subduing and harmonizing effect of atmospheric color. This, in general, was the process of evolution. The names mentioned are given to show the time, rather than the persons, to whom we are indebted, for in all evolution each one striving for truth will produce something to make up the advance. It is no longer necessary for our sculptors and painters to dress our statesmen in Roman togas nor our soldiers in coats of mail to indicate wherein they serve the people. Artists have a more subtle method of transmitting thought.

The true artist receives into his soul a feeling; if he can transmit this feeling to another, his mission has not been in vain. This is the true value of art. Without this carrying power the work is worthless from an artistic standpoint. It may be true and serve its purpose as history. How this feeling is reproduced we know not, nor shall we know until the laws of hypnotism and other psychological phenomena are understood. We do know that it cannot exist, except it first existed in the artist. No rules are of any avail. In all the arts, except architecture, these things are accepted. In them the artists have passed the debatable ground and are working together in a new and rich field. That the public is awakening, there is no longer doubt. It responds to the thrilling chords of modern music; it crowds our art galleries, it fills our libraries. That "one touch of nature which makes the whole world kin" is fast making it an intelligent, discerning and receptive one.

Let us now take up the parallel of architecture. Architectural literature has led architecture since the fifteenth century. The premises, as we have seen, were not correct, however logically may have been the course followed since; the position now arrived at is beyond comprehension. Go where you will in our country and in every city, you will find men at work cutting holes in the facades of buildings built after the best architectural textbooks; so universal is this practice, that more than one-half of the large buildings have undergone this operation and a large proportion of the remainder are tenantless. Year after year architects rear buildings, pointing out their archæological beauties, and science follows close behind with a sledge-hammer and makes a wreck of the archæological part of them. So evident is this that the people now demand and are receiving a logical construction. The architect recognizes the necessity, and clings to ancient construction solely that he may employ ancient ornament. This he distorts out of all proportion in order to form a compromise with a useful construction. Constantly dissatisfied with the results, flits from style to style.

Just now the Renaissance is in vogue, and the Davids of architecture are taking the bright minds from the hotbed of America and shutting them up in the refrigerator of all progress—Italy, a country which never developed a style; a country where each style, being imported, began at its best and rapidly degenerated. Nature, that great storehouse of artistic supply, never furnished nourishment for the Renaissance style; except at the first, where it appears to have taken its inspiration directly from the Greek, it is a book architecture nourished by the dogmas of Vitruvius.

For four hundred years we have choked in our efforts to suck

blood from dry bones. How long shall we continue, and what are the influences which hold us from the fat and marrow? To-day the evil, especially in America, is the architectural school. The instructors are not architects. The pupils have too much instruction and too little guiding. Their minds are crammed with a knowledge which will prevent the natural growth of any problem which may confront them. The development of the memory is forced; but the mind, like the source of its supply, the Roman ruin, is left overgrown with acanthus weeds and blocked with egg and dart moldings. Why spend years learning the steps by which the Gothic passed from the Greek, when the essential quality of its art is in the fact that it got rid of the Greek, and not that it retained any of the Greek influence? If we can imagine a medical school where none of the instructors is or ever has been a practicing physician, with the writings of Claudius Galen for a text-book, we will have a just comparison.

The painter no longer paints in the Renaissance or Byzantine style as he did fifty years ago. He paints in his own style, and we now begin to hear of the American style or school, which means simply that he paints as an American sees America, with an American's pride and patriotism. When an American builds as an American sees America, then and not until then will we have an American style.

If we cease to try to express character by the use of different styles, a method which is now universally adopted—a method which is governed by association, the lowest form of expression—if we throw off the yoke of precedent and stop copying the works of other nations and other times, if we form an American style, what will it be? If we judge of our future by the works of those nations who recognize no architectural rules, the new American style is clear. We will never have a great ecclesiastical decoration; the Protestant church is against the use of pictorial symbols. We will never have a great historical style in the sense the Greeks possessed it; we are not hero worshippers. We may not record the acts of ourselves nor our contemporaries, as did the Egyptians. First and foremost we are an agricultural people. We love flowers and foliage plants. We inherit a taste for the woods and chase. We are a manufacturing people. We are interested in our history and in the sciences. We take comfort in our religion. We may, then, expect a decoration evolved from these subjects in the proportion of their prominence. Owing to our love of novelty and our inventive genius, we will not develop one line, but will use whatever we find in any which contains decorative quality. We will not continue to use in building after building one or two plants, as did the Egyptian or the Persian, but, like the builders in the Gothic period, choose for ourselves those things which best express the character we seek.

We will have a colored architecture, for we, as a nation, love color. We who hold the painter and sculptor in high esteem will evolve an architecture which will give them the opportunities that they so rightly deserve. It is now impossible for a modern painter to place himself in the spirit of painting what would harmonize with any of the ancient styles of architecture. There are, at present, technical difficulties to overcome. It is necessary, in order to produce the numerous complicated drawings which constitute the plans of a building in the time allotted by our rapid age; not to mention the economy required to prevent financial failure, to observe a system. This condition is not, however, prohibitory to the forming of a new style, for it has been successfully overcome in many large and notable buildings.

If the schools would develop the true designing power of our pupils, and train them in the conventionalizing of natural forms, the step would be an easy one. There is no field of artistic study so open to success as this one, for this architecture is sure to come; it is now well under way. We are now in the transitional period. Modern thought is showing itself here and there on our public buildings. Here and there, in domestic architecture, a frieze, a mantel facing or a stained-glass window is designed and executed in decorative character without the use of precedent, and with nature as the model. On the exterior of the new Congressional Library at Washington are carved, with great truth, typical heads of all the different races. Not only is this of far greater interest than the repetition of so many lion heads, but it is a valuable record in stone of the world's position to-day. At the entrance and in the rotunda of the Marquette Building, in Chicago, we have excellent examples of this new style. The Auditorium Hotel is filled with frescoes representative of American life. In nearly every building some of the art has forced itself in.

The Columbian Exposition was full of American art in spite of the understanding among the architects that the work should all be classic. The Court of Honor was full of American ornament.

So thoroughly was this ornament conventionalized and ennobled by eliminating all except the highest quality, that it held its place well with the best productions of classic art. Had the Fair been held ten years earlier, two huge lions would have taken the places of the charming statues of Plenty and Industry. Had this feeling been carried throughout, we should have shown to the world that we are independent leaders in art as well as in the sciences. As it is, we have shown a beginning and given a foretaste of what our architecture will be when we again put ourselves on exhibition before the nations of Europe.

ONTARIO ASSOCIATION OF ARCHITECTS.

THE Council of this Association, as empowered by the convention, has prepared a tariff of professional charges, which is now being printed for distribution. It has also been arranged that each member shall receive a number of copies as soon as they are ready. The tariff is printed below. It is based upon that of the American Institute of Architects, and thus endorsed by the practice of the leading body of architects in America.

The rooms of the Association in Toronto will not be opened until September, but committees have been formed to arrange for monthly meetings and classes, and the question of a suitable opening will also be considered. An Educational Committee has been appointed which will consider the whole question of education of students in technical subjects and design, and make arrangements for this work next winter. In this connection the council is desirous of having every member comply with the requirements of the Ontario Architects' Act, which requires the registration of students.

The library is still in the office of Mr. W. A. Langton, Canada Life building, and he has kindly consented to act as librarian until the new rooms are ready for occupancy.

Mr. A. M. Weir has passed the second examination with a percentage of marks which would entitle him to honors in a University examination.

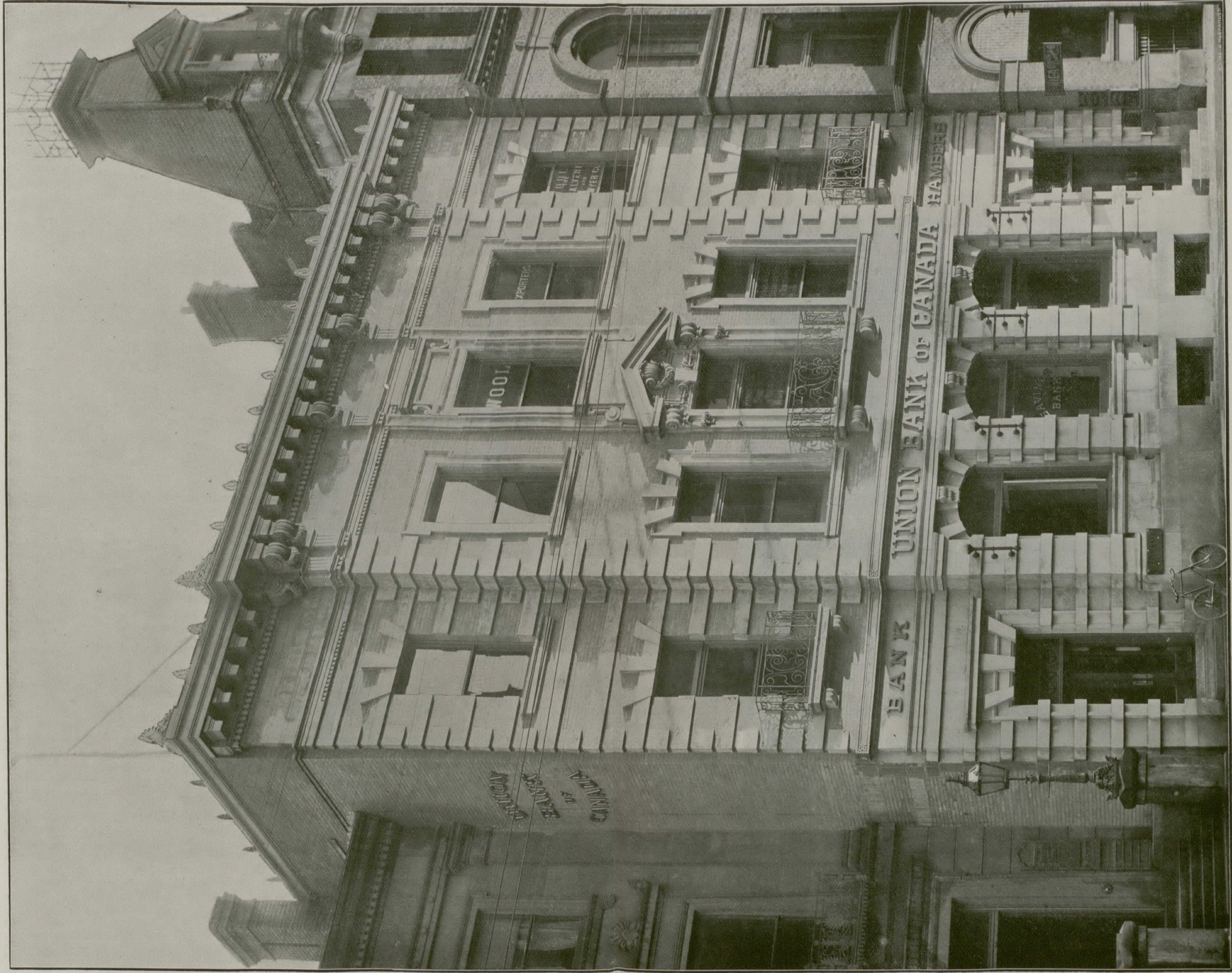
Mr. C. H. C. Wright, instructor in Architecture in the School of Practical Science, and Mr. Fred T. Hodgson, who has long been well known as an editor of architectural journals in the United States, but who is a British subject and permanent resident in Collingwood, have been admitted to membership in this association.

ONTARIO ASSOCIATION OF ARCHITECTS.

SCHEDULE OF MINIMUM CHARGES—ADOPTED APRIL 14, 1900.

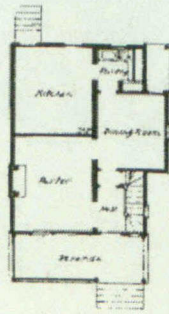
(Based upon the Tariff of the American Institute of Architects.)

1. For full professional services (including supervision) five per cent. upon the cost of the work, excepting that a percentage in excess of this may be charged when the work costs less than a certain sum below which a commission of five per cent. is not remuneration, which sum may be fixed at \$5,000 for simple work and \$10,000 for work of a more complex character.
2. For factories, warehouses, and other plain work of a like description, a charge of from three to five per cent., according to the nature of the work.
3. For partial service, or in case of the abandonment or suspension of the work, the charge for partial service is as follows: Preliminary studies, one-fifth of the full commission as above. Preliminary studies and general drawings and specifications sufficient for estimate and contract, one-half of the full commission as above. Preliminary studies, general drawings, specifications and details, four-fifths of the full commission as above.
4. For monumental and decorative work, and designs for furniture, a special rate in excess of the above.
5. For alterations and additions, an additional charge to be made, and also an additional charge to be made for surveys and measurements incident thereto.
6. An additional charge to be made for alterations and addi-

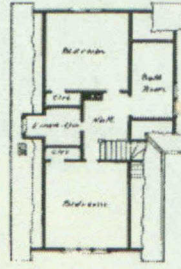


UNION BANK BUILDING, TORONTO.

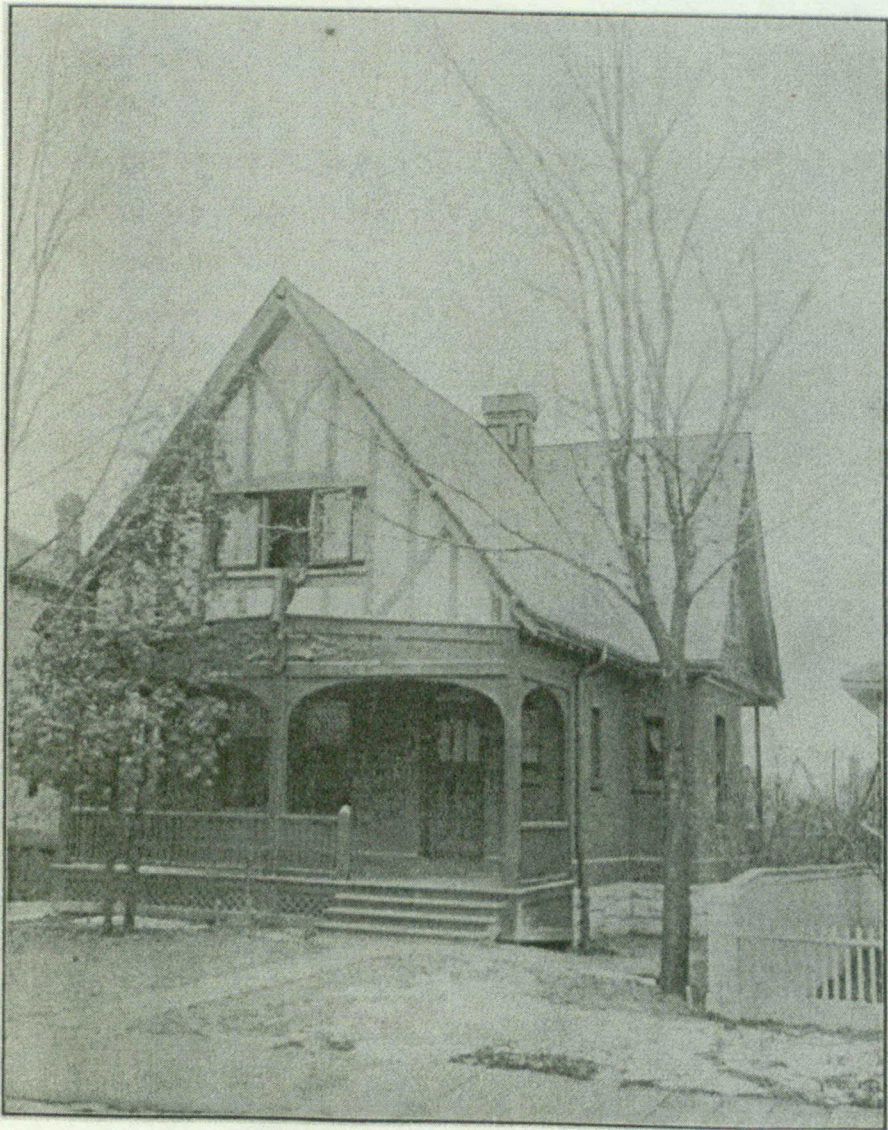
DOND & SMITH, ARCHITECTS.



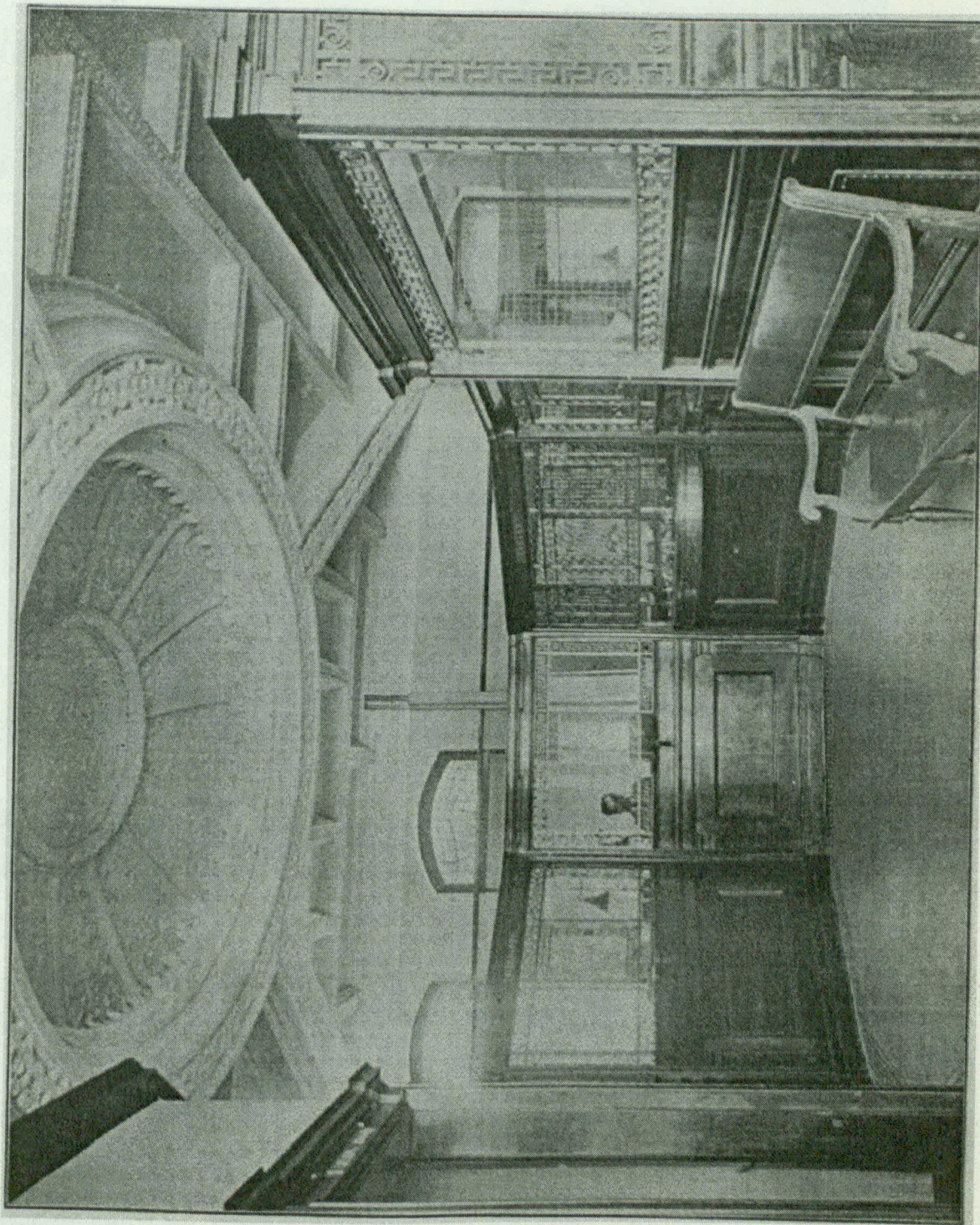
First Floor Plan



Second Floor Plan



RESIDENCE FOR MISS M. A. WALLACE, HAMILTON.
WILLIAM & WALTER STEWART, ARCHITECTS.



INTERIOR OF BANKING ROOM, UNION BANK BUILDING, TORONTO.
BOND & SMITH, ARCHITECTS.

tions, in contracts and plans, which will be valued in proportion to the additional time and service employed.

7. Necessary travelling expenses to be paid by the client.

8. Time spent by the architect in visiting for professional consultation, and in the accompanying travel, whether by day or night, will be charged for, whether or not any commission, either for office work or supervising work, is given.

9. The architect's payments are successively due as his work is completed, in the order of the above classifications.

10. Until an actual estimate is received, the charges are based on the proposed cost of the works, and the payments are received as installments of the entire fee, which is based upon the actual cost.

11. The architect bases his professional charge upon the entire cost to the owner of the building, when completed, including all the fixtures necessary to render it fit for occupation, and is entitled to extra compensation for furniture or other articles designed or purchased by the architect.

12. If any material or work used in the construction of the building be already upon the ground, or come into the possession of the owner without expense to him, the value of said material or work is to be added to the sum actually expended upon the building before the architect's commission is computed.

SUPERVISION OF WORKS.

13. The supervision or superintendence of an architect (as distinguished from the continuous personal superintendence which may be secured by the employment of a clerk of the works) means such inspection by the architect, or his deputy, of a building or other work in process of erection, completion or alteration as he finds necessary to ascertain whether it is being executed in conformity with his designs and specifications or directions, and to enable him to decide when the successive installments or payments provided for in the contract or agreement are due or payable. He is to determine in constructive emergencies, to order necessary changes, and to define the true intent and meaning of the drawings and specifications, and he has authority to stop the progress of the work and order its removal when not in accordance with them.

CLERK OF THE WORKS.

14. On buildings where it is deemed necessary to employ a clerk of the works, the remuneration of said clerk is to be paid by the owner or owners, in addition to any commission or fees due the architect. The selection or dismissal of the clerk of the works is to be subject to the approval of the architect.

EXTRA SERVICES.

15. Consultation fees for professional advice are to be paid in proportion to the questions involved, at the discretion of the architect.

16. None of the charges above enumerated cover professional or legal services connected with negotiations for site, disputed party walls, right of light, measurement of work, or services incidental to arrangements consequent upon the failure of contractors during the performance of the work. When such services become necessary, they shall be charged for according to the time and trouble involved.

DRAWINGS AND SPECIFICATIONS.

17. Drawings and specifications, as instruments of service, are the property of the architect.

APPOINTMENT OF AN ARCHITECT.

18. The Ontario Association of Architects is of the opinion that a better result is always obtained by the direct appointment of an architect for any given work than by the selection of an architect by the process of competition.

SOLICITING PATRONAGE.

19. The attempt to secure work by offering to prepare sketches or preliminary drawings, or to render full professional services at a less rate of compensation than another architect, is unprofessional conduct.

REMOVAL NOTICE.

On May 1st next the Montreal office of The CANADIAN ARCHITECT AND BUILDER will be removed from the New York Life Building to the Imperial Building, corner St. James Street and Place d'Armes Hill.

Messrs. Darling & Pearson, architects, Toronto, have removed to new offices in the Imperial Bank Building, Leader Lane.

ILLUSTRATIONS.

RESIDENCE FOR MISS M. A. WALLACE, HAMILTON, ONT.—
WILLIAM & WALTER STEWART, ARCHITECTS.

SOME OF THE FURNITURE OF THE NIAGARA NAVIGATION
COMPANY'S STEAMER "TORONTO" (SELECTED BY THE
ARCHITECTS' EIGHTEEN CLUB, TORONTO)—BOND
& SMITH, ARCHITECTS.

EXTERIOR AND INTERIOR VIEWS, UNION BANK BUILDING,
TORONTO.—BOND & SMITH, ARCHITECTS.

The building was almost an entire reconstruction, only a portion of a wing of the original building being left at the rear. The work was carried out under unusual conditions, the new building being erected while the bank continued its usual business in the rear, and also a firm of lawyers occupied offices above the bank. Temporary entrances had to be arranged and shifted from place to place as the work progressed. It is satisfactory to note that no accident occurred. Another feature of the bank is that the banking room space is unbroken by columns or supports of any kind, the two floors and roof above being carried by a plate girder across a span of 45 feet. The ceiling of the banking room is suspended from this girder by rods. The front is designed in the style of modern French Renaissance, carried out in light buff terra cotta, pressed brick and Indiana limestone. The banking room is finished in quarter cut oak and antique bronze grilles.

SCIENTIFIC PHOTOGRAPHY.

PHOTOGRAPHIC researches which are now well known have revealed much as to the structure of metals and alloys, but a still further insight as to structure in relation to behaviour has been obtained by Messrs. Ewing and Rosenhain, whose results are embodied in a paper recently communicated to the Royal Society. Most metals, when polished and afterwards slightly etched, reveal a structure, showing that the metal consists mainly of irregular grains, which ordinarily have well-defined boundaries, and these grains, by suitable lighting, can be seen as nodules, with well-marked crystalline facets. The grains are, it would appear, actual crystals, which are deformed by the crowding and crushing together of the various crystal growths. To observe and record the effect of strain on the crystalline grains several methods were adopted, the most usual course being to mount strips of polished and grained metal on the stage of a microscope having photographic attachments, the metal being then strained by the steady and controlled pull of a miniature testing machine. In other cases larger bars were strained by means of a fifty-ton testing machine, the microscope being mounted on the bar itself. The chief results, as shown by the photograph, taken at frequent stages, are as follows: When iron or other metal showing the ordinary granular structure is stretched beyond the limit of elasticity, sharp black lines appear on the crystalline nodules, these lines being substantially straight and parallel on each nodule, but the direction is not the same on all nodules. At first, however, the lines are, for the most part, transverse to the direction of the pull, but as the stretch becomes considerable the more oblique systems of lines develop. If a piece of metal is very considerably strained, a second system of bands appears on some of the nodules, and sometimes a third system. The authors regard the bands as being due to slips occurring in the various cleavage systems of the crystals. The slip bands can be seen quite well if polished, but unetched metal is strained, and although at the outset the nodular structure is not traceable, this structure becomes obvious when the straining proceeds, as the slip bands themselves map out the positions of the nodules. The microscopic slip bands can be developed by straining iron, copper, silver, gold, nickel, bismuth, tin, or brass, a ready means being by pinching a bright button of silver or copper in a vice.

STUDENTS' DEPARTMENT.

ALPHABETS AND PRINTING.*

BY H. C. D. CHORLTON.

To trace the evolution of our alphabet from the earliest possible records and through historic times is of great interest and use, but I purpose rather to treat of the arbitrary forms as we now have have them, more particularly dealing with those styles of most utility, and to give you my own ideas respecting their proportions, spacing, and arrangement. The forma-

REFINED EH

Elongated refined forms.

Want of proportion in thick and thin parts.

tion of good letters, though seemingly a simple matter, is evidently difficult, seeing that so many hundreds, almost thousands, of variations have been made, yet so few continue to hold the approval of cultivated judgment.

I find that among those who have been obsevant of natural forms, and particularly among those who have carefully drawn and studied them, that there is a general unanimity with regard to the proportion of thick and thin parts and the avoidance of mechanical regularity. From the appearances of Nature, according to our individuality, we absorb certain ideas of proportions, such as from a vigorous oak-tree with its strong trunk and boughs, or a graceful birch tree with its tapering, radiating, and delicately curving branches.

EH CAT

Want of variety. Proportion of thick and thin.

A stout piece of humanity has proportionately stout limbs, as a graceful woman has proportionately graceful limbs. Such observations have their beneficial effect on our appreciation of conventional work, and even in our choice of letters.

We ought not only to design well-formed letters, but they should also be suitable for the instrument and material with which they are to be worked. The conditions not only facilitate the work but they give character also. The old Roman letters were cut in hard substances and are consequently angular. The reed pen and stylus made scratchy, monotonous lines. The quill pen, with its delightful flexibility and the different angles at which it could be cut, produced the beauti-

CLAUSE

VSE USE

The first u, which was formerly used as a capital, is preferable. The second V is useful as an angular form among curved letters. The last U is the least desirable form.

fully-varied forms of the old illustrated MSS., the forerunners of the printer's lower-case forms.

Legibility is, of course, the first consideration, and we can secure this by the avoidance of oddities and jerky points and twists of the serifs, and we can get beauty in simple purity of line.

In Roman letters I have always a liking for a gener-

ous form not too condensed nor too extended, and for variety in extension; every letter should not fill a square, which would only give a mechanical monotony.

Curved letters should approach a circle or even go beyond it, as in O. Albrecht Durer had a good system for these proportions and for forming the serifs.

If it is desired to use a light letter, I prefer the employment of the double line throughout.

For convenience of space letters may be linked together, but this should be done judiciously so as to avoid loosing legibility or cutting the word into a monogram. Linking should be avoided in words beginning with a capital.

There is some obscurity respecting the origin of a very beautiful form of Irish MSS. in use from the sixth to the ninth century, of which the Book of Kells, now in the Library of Trinity College, Dublin, is the finest example. The capitals are of little use for modern requirements, but a careful study of the small letters

OPEN
OPEN

could not fail to be beneficial, and might be made to form a basis for a good series for present use.

I come now to the question of printing. To my mind, both from a matter of clearness and good appearance, modern types are too thin, too condensed, too much spaced between the lines and between the words, and often too small. The result is a washed-out grey and mechanical appearance in the mass. The fifteenth century printers did very much better.

The rectangular shape of the paper and the necessary lines of words force us in a general way into the acceptance of the panel form for the massing of type. I prefer that the panel may be retained as much as possible.

In a display page the division of words at the end of a line is sometimes awkward, but on some rare oc-

TE LOVE
TO AND

casions I think it is permissible to sacrifice the customary syllabic division to the effect desired. It is only a question whether the artistic or the literary side shall rule, and I think there are occasions when ornate appearance shall be the first consideration and the idea of clear reading quite secondary. These occasions must of course be carefully chosen.

It is not any more difficult to set well-formed than ill-formed types, and cultivation will make good arrangement easy enough. Well-formed type, if well set, may look ornamental even without any added ornament.

Ordinarily we do not sufficiently consider the white paper. We should remember that when we are setting black we are putting it on white, and the proportions one to the other should be considered, and although we are using black ink, the result in appearance may go through grey to solid black.

I like to see the spaces between the words less than is at present customary, and to make them as regular as circumstances will allow; the early printers did this,

*Read before the Manchester Society of Architects, 14th December, 1899, and reprinted from the Journal of the R. I. B. A.

and never had the objectionable "rivers" in their work. I like to see type set as solid as convenient reading will allow. Long lines are difficult to follow. I like the double columns, and they lend themselves very well to ornamental work.

Borders may be darker than the mass of the type or equal in weight; they rarely look well if they are lighter. We usually set them too far from the type.

Capitals are often the only means of giving relief or accent to a page. We seem to be afraid of using them large. For clearness of reading the Roman are preferable, for that is their strong side, as Gothic is of the lower case. Where clearness is not the great essential, either Roman or Gothic capitals may be used, and either may be ornamented. Always presuming that the run-on matter is in black, the capitals may also be in black or in color. The weight of the capital should be in keeping with the lower-case. If it is in black it ought not to be so heavy as it may be if printed in color, and may be bolder as the color employed is lighter. If two colors are employed, we should be aware of their mingling effect. The colors always seem brighter if used in simple mass or if relieved by a white line.

It is possible to ornament a capital and yet keep the shape of the letter clear, but I do not think that is always necessary. The types should come fairly close to the capitals. It is extremely difficult to ornament a capital with figures or animals. In a piece of display printing I like to keep the unity and to use as few styles of types and even as few sizes of the same type as possible.

Illustrations other than the purely utilitarian should ornament a page as well as be a means to the further comprehension of the subject. They should be in line, and the thickness of line employed should be in keeping with the weight of type. Half-tone photographic reproductions are out of all sympathy with type.

Most commercial work, dictionaries, medical and scientific works, should be entirely free from ornament, so also should works having illustrations of a purely utilitarian character, as any ornament would be sure to be out of keeping with them.

When arranging an ornamental page I always get the lettering right first. If type is to be used it is set first, or if the whole is to be drawn the lettering is decided first, and then the ornament is made in keeping or agreement with it. It is always difficult to make a pen line agree with type. To be simple in design requires more knowledge, more thought, greater selection, and a higher sense of ornament, than to be elaborate. With such a frank instrument as a pen, it is more difficult to draw a thick than a thin line.

A drawing for photographic reproduction should be very slightly, if any, larger than the intended size, as much reduction destroys the quality of penmanship, and we should always bear in mind that in much reduction heavy black parts still remain black while the lines may be reduced to scratchy fineness, thus producing an exaggerated difference between them.

As letterpress printing is a method of impressing characters by means of raised stamps, it should not have its peculiar quality taken away by hot-rolling the paper afterwards; it takes away the slightly varying surface caused by the impress, and makes the matter look flat on the surface—a result so insipid in lithography.

When looking at a book the two pages are seen to-

gether and should bear a relation to each other; the margin in the binding should be narrowest, the head margin larger, the fore margin larger still, and the tail largest of all—this for convenience of handling as well as to avoid the appearance of the pages flying away from each other.

TESTS OF BUILDING MATERIALS.

No. 21 of the British Fire Prevention Committee's publications records the result of a fire test of an hour and a quarter's duration on a floor of steel joists filled in with concrete carried on corrugated iron, with a suspended ceiling of modern joists carried by iron hooks projecting below the concrete floor, and hooked on to the lower flanges of the steel joists, with wire lathing and plates on the under side of the wooden joists. The suspended ceiling fell during the test, and as it is noted that the concrete was slightly disintegrated on the under side, that is what might have been expected considering that, according to the section drawing given, the intermediate supports were by bolts fixed in the lower part of the concrete. This seems to have been a weak point, as it necessitated piercing the corrugated iron, and it is noted that "occasional jets of flame came from between the joints of the corrugated iron centering."

The floor deflected during the test 2 3-4 inches in the center, but subsequently returned to within one inch of level. The corrugated centering and the under side of the steel joists were red hot after the test, but this probably (or almost certainly) would not have occurred if the ceiling had not fallen. The result seems to be adverse to the principle of suspended ceilings, or at all events points to the necessity of better methods of suspension.

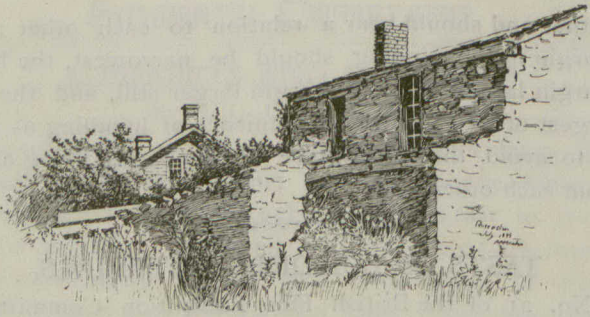
No. 22 of series records tests on two lath and plaster partition, one with wood lathing, the other with wire lathing; and on two brick nogged partitions, one with brick flat, the other with brick on edge. Both lath and plaster partitions were practically destroyed, the fire breaking through the wood-lathed one in twenty-eight minutes (1650 deg. Fah.) and through the wire-lathed one in forty minutes (1750 deg. Fah.) At twenty-five minutes after the commencement of the test the wire-lathing on the side next to the fire was bare of plaster and the wire lathing nearly all down. In this respect it showed only six minutes longer life than the wood lathed partition. The brick nogged partitions kept the fire from penetrating up to the end of the test, but the plaster fell from the brick flat partition at thirty-three minutes from the commencement of the test, but not so as to lay bare the brick. The result seems to indicate that plaster stands fire better on brick backing than on lathing, whether wire or wood. It also appears that the brick on edge partitions stood the test as well as, if not better than, the brick-flat one, but this result may probably be regarded as accidental.—London Builder.

Mr. Alex. Cameron, contractor, of Portsmouth, Ont., died last month.

Mr. William McDonald, of Kansas City, Mo., is about to commence business as contractor at Kingsville, Ont.

Mr. F. Deggendorfer and Mr. A. G. Harrison have formed a partnership as architects and civil engineers at Edmonton, N.W. T., under the firm name of Deggendorfer & Harrison.

Mr. W. Reid, contractor, died in Montreal recently, at the advanced age of 82 years. Deceased came to this country from Scotland when quite young, living the most of his life in Montreal.



Queenston, Ont.—Sketched by A. A. Martin.

CODE GOVERNING COMPETITIONS IN DESIGN.

COMPETITIONS, with their invariable unsatisfactory results, have ever been a vexation to architects, who, strange to say, have taken little if any concerted action to rectify the evil, which undoubtedly is their business, if a satisfactory solution of the question is ever to be reached.

The New York Architectural League, the Chicago Architectural Club, and the Philadelphia T Square Club, as well as the National Sculpture Society and the Mural Painters of New York, have approved of a code for governing competitions in design, which was brought before the Convention of the Architectural League of America last June by Mr. J. F. Harder, of the New York Architectural League, in a paper explaining its aims and urging its adoption by all architectural clubs, and concluding with the following reasons for its acceptance:

1. It enters upon the road to reform by taking the first step which must be taken to accomplish anything.
2. It commits the profession to a recognition of certain uniform principles of ethics relating to the subject.
3. It can be immediately applied to such competitions, both private and public, over which clubs have control, and in some cases where the executive of clubs is officially consulted.
4. It establishes a standard by comparing which with an issued program, professional men will be able to decide whether it is advisable to enter or desist from a proposed competition, and provides the reason therefor.
5. It places a club in a position to announce to its members or publicly state whether it approves or disapproves of the terms and conditions of a proposed competition and to state reason therefor.

The Convention adopted a resolution recommending all the clubs there represented to adopt the code and urge its adoption by all other architectural organizations, so that by concerted action a uniform code would be insisted upon by the profession and acknowledged by the public.

The code is given below that the profession may familiarize themselves with it and consider its adoption by their local organizations:

I.—DEFINITIONS.

1. A competition in design is the process by which, on the basis of merit, from two or more designs proposed, one or more are selected.
2. Competitions may be either "open" or "limited."
3. An "open" competition is one in which any person may a competitor.
4. A "limited" competition is one in which each competitor is especially invited.
5. A competition of either class may be either—
 - (A) "Premiated"—in which remuneration is provided only for those to whom an award is made.
 - (B) "Paid"—in which remuneration is provided for each competitor.

6. The promotor is the party who undertakes responsibility for fulfillment of the competition according to its terms, and shall provide for proper and substantial remuneration to each competitor to whom an award is made.

7. The programme is the offer made by the promotor and includes the written or printed statement of the terms of a competition on the basis of which proposals are to be made.

8. A competitor is one who in acceptance of such offer submits a proposal in accord with the terms of the programme

II.—THE PROGRAMME.

9. The programme is an agreement, the terms of which must be carried out in good faith by all parties.

10. The terms of the programme are to be concisely stated and must be mandatory.

11. The programme shall—

- (A) Be headed substantially as follows: "Under the general code governing competitions in design of the Architectural League of New York, of which a copy is subjoined.

.....
(Name of promotor.)

invites competitive proposals upon the following programme."

- (B) Contain a definite statement as to proposed cost.
- (C) Contain a definite provision as to anonymity.
- (D) Name the jury, which must include experts upon the subject under consideration.
- (E) Fix uniform requirements for drawings, models or other forms of proposals.
- (F) Fix a definite time and place for receipt of drawings, models or other forms of proposals.
- (G) Fix the nature or amount of the awards or prizes.
- (H) Fix the period of time within which decision will be rendered.

III.—DRAWINGS OR MODELS.

12. The requirements for drawings, models or other means adopted for illustrating or describing the proposals must be clearly defined in the programme, including, namely: that they be uniform as to character of rendering, scale, number and size of separate sheets or pieces, and such other detail as may be necessary in the peculiar circumstances of each case.

13. The requirements for drawings, models, etc., must be of the simplest nature, adequate clearly to explain the design, thus reducing to a minimum the labor and materials necessary in their preparation.

IV.—THE JURY.

14. All competitions are adjudicated by the vote of the jury, including disinterested experts. If the subject of the competition be such that its execution requires special expert knowledge, then, if permitted by the programme, the jury may call in additional disinterested experts and also the promotor, to advise with them.

15. The order of procedure of the jury shall be as follows:

- (A) Reading the programme.
- (B) Passing upon the question of calling in expert adviser or the promotor.
- (C) Passing upon the work submitted, with reference to conformance with the conditions of the programme. The jury must exclude from consideration proposals violating the conditions of the programme.
- (D) Passing upon the manner of arriving at the verdict.
- (E) Deciding upon the verdict.
- (F) Writing and signing the verdict.

16. The jury may decide whether the prime object of the competition is to select a design, or whether it is a means of test, having for its object the selection of an artist.

17. The jury must make the awards to the competitors as stipulated in the programme.

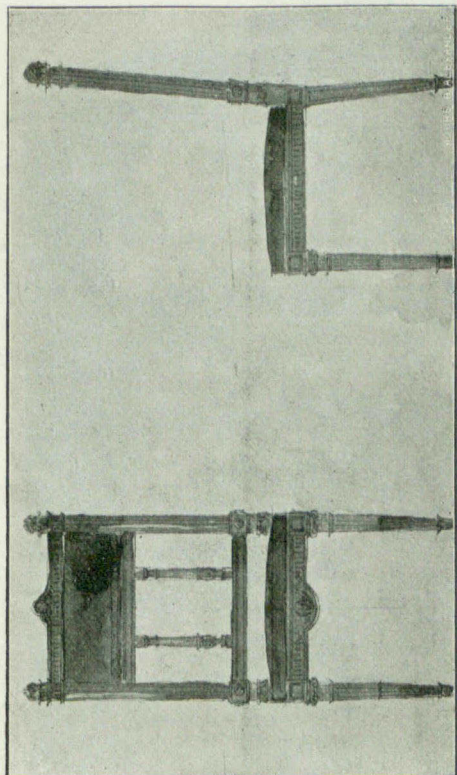
18. The drawings, models, etc., are not to be placed on exhibition before the verdict of the jury is rendered, and except when otherwise provided in the programme shall remain the property of their proposers.

19. Voting must be by ballot, but procedure otherwise shall be as agreed upon by the jury.

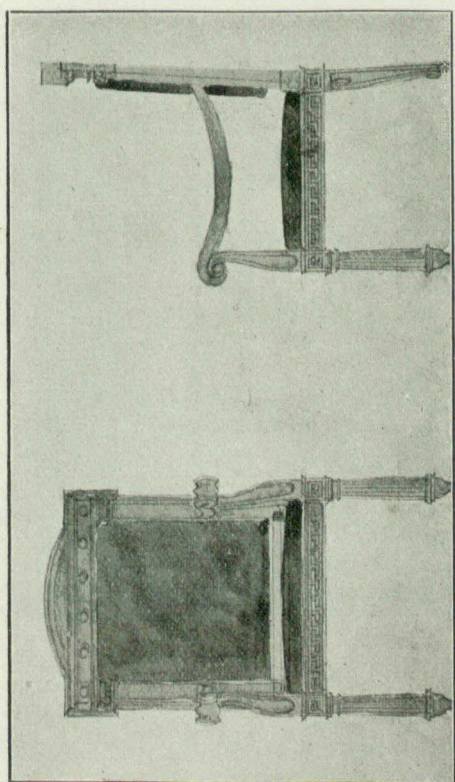
20. The action of the jury shall be final.

V.—BY-LAWS.

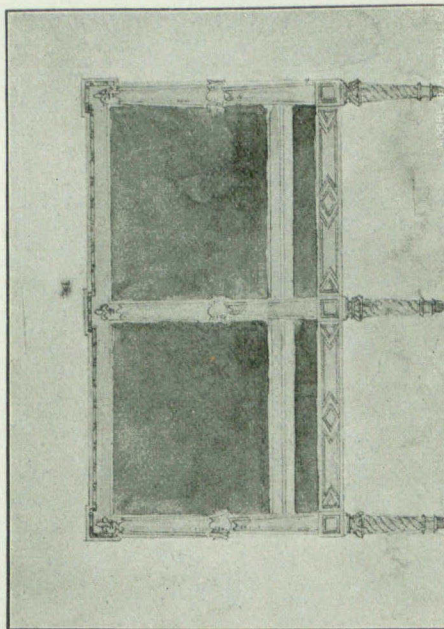
21. Any subscribing society may prescribe such by-laws additional to this general Code of Competition and not in conflict therewith as it may see fit; but such by-laws are to be included under a separate head, and indicated as being the by-laws of the particular society prescribing them, and the other subscribing societies shall be served with an official copy of such by-laws.



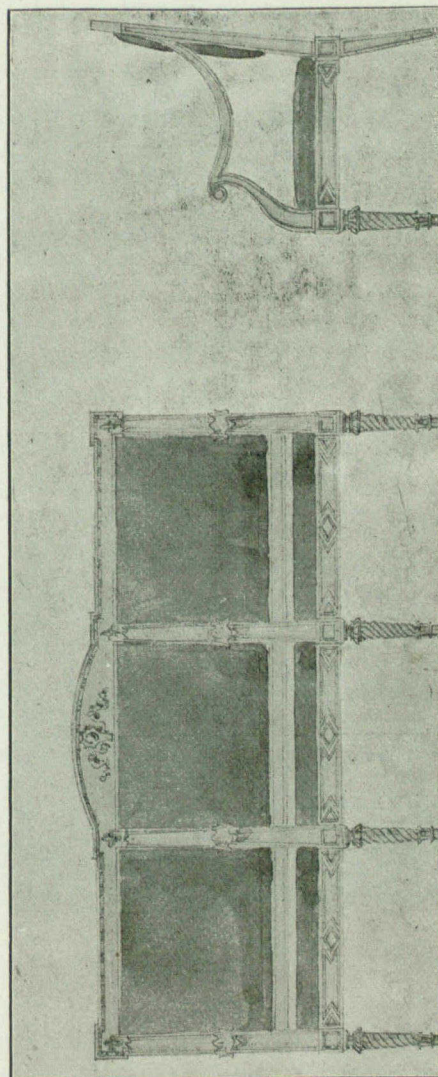
DINING SALOON CHAIR.



ENTRANCE HALL CHAIR.



DOUBLE SEAT LOUNGE, MAIN SALOON.



TRIPLE SEAT LOUNGE, MAIN SALOON.

SOME OF THE FURNITURE ON THE RICHELIEU & ONTARIO NAVIGATION COMPANY'S STEAMER "TORONTO."

BOND & SMITH, ARCHITECTS.

VALUE AND BEAUTY.

It is not many years since many of us thought that art was a thing in itself, but within recent years we have come to know that art, united with clay, or with another material substance, did much to increase its

which would otherwise go into the crude brick, we find we have greatly enhanced the value of the brick. This fact is of commercial value. Beautiful brick—those of good form—those of decorative quality—do not cost greatly in excess of the crude form. On the other hand,

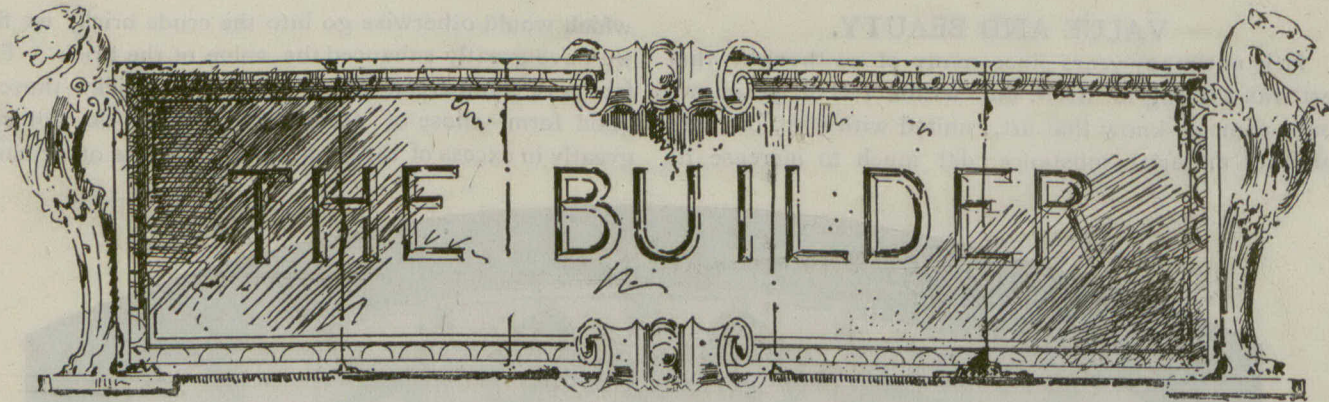


STAIRCASE WINDOW IN RESIDENCE OF MR. J. R. McRAE, OTTAWA—DESIGNED AND EXECUTED BY H. HORWOOD & SONS, OTTAWA.

value. An ugly brick may contain the same amount of material and labor as a beautiful one, or a brick with a good form, yet its value is not commensurate with the amount of material and labor involved in its production. However, if we take the artist's idea of beauty and associate it with the same kind of material and labor

they sell for much more money. The result is a larger profit those who have the business sagacity to take up with the higher idea.

Mr. G. B. White is opening a new stone quarry at Amherstburg, Ont.



[THIS DEPARTMENT IS DESIGNED TO FURNISH INFORMATION SUITED TO THE REQUIREMENTS OF THE BUILDING TRADES. READERS ARE INVITED TO ASSIST IN MAKING IT AS HELPFUL AS POSSIBLE BY CONTRIBUTING OF THEIR EXPERIENCE, AND BY ASKING FOR PARTICULAR INFORMATION WHICH THEY MAY AT ANY TIME REQUIRE.]

Metal Ceilings. THE introduction of sheet-metal as a roofing material, and for decorative and other purposes, has made it necessary that the carpenter and builder doing business in small towns and villages should have some knowledge as to the manner of putting in place and securing this material. The imaginary difficulties that present themselves to the uninitiated workman in the application of sheet metal work has in many instances prevented the use of sheet metal, when such would have suited the purpose admirably; therefore, a few remarks as to the manner of "fixing up" an embossed ceiling or wainscot will not be considered inopportune. Let us suppose it is necessary to put up a metal ceiling in a room where no lath or plaster has been applied. The first thing to do is to make a diagram of the ceiling with the exact dimensions marked on each side and end, the exact position of any projections, such as chimney breasts, offsets, or other irregularities, with proper measurements of their projections, width, etc., all of which must be figured on the diagram. Then determine on the style of ceiling, depth and width of cornice, which will, of course, be selected from some one of the many trade catalogues, which may be obtained from any dealer in sheet metal work, whose address can be found in the advertising pages of the CANADIAN ARCHITECT AND BUILDER. All this being satisfactorily arranged, send the diagram and order, with the number or description of the style or pattern of ceiling and cornice required, stating exactly what you want. The dealer will arrange the metal to suit your diagram, and, when received, you can readily find out where to nail up battens on the ceilings and walls to suit the joints of the metal, and to receive the cornice. It must be borne in mind that, for the cornice, there must always be a batten in such a position that the upper member of the cornice can be nailed to it, both along the sides of the room and the ends. This may sometimes require either an extra joist or pieces fitted between the end joists on which to nail the battens. There must also be a batten nailed around the room on the walls to receive the lower edge of the cornice. The line to nail it to will be found by trying a piece of the cornice in situ, after the ceiling strips have been nailed on. If the joists have been properly sized before being put in place, there will be no trouble whatever in putting up the ceiling; but, if they have not, such joists as hang below the others must be dubbed off where the batten crosses them, so that all the strips will be in one plane or have an even face, so that when the metal is nailed in place it will be straight and even. Everything depends on having the ground-work, on which the metal is fastened, true and even on the face, and the battens in the

proper positions to receive the edges of the metal. Mitring the cornices at the edges of the room, or about the projections, is a very simple affair, and need not deter the workman from undertaking the job. In the cornice one piece may run through to the wall, and the returning piece cut to butt it, a plan that requires but little skill. The outer angles of projections will require a little more care, but the work presents no difficulties that even an ordinary mechanic may not overcome.

Metal Ceiling Over Plaster.

THE best way to repair old ceilings when the plaster is getting old and rotten and liable to drop down at any moment, is to cover it entirely with a sheet metal ceiling—an operation that is neither difficult nor costly. It is not necessary to take off the old plaster, to remove gas piping or electric wires, but should there be any plaster centre pieces they had better be taken down, as they would remain a source of danger and perhaps an eyesore. If the ceiling has sagged, which is very likely the case in an old building, care must be taken in putting in the grounds or battens to overcome the appearance of "sag," by having some of the grounds much thicker than others in order to have the face of the work level on the under-side. The centre strips will require to be thin, while their ends may want to be thick, and the grounds near the sides of the walls will require to be the thickest. A good way to start work is to nail up a string of the thickest grounds along the sides of the wall, at the proper distance from the angle, to receive the extreme member of the cornice projecting into the room. This strip must be made straight in its face, and should be level. Another strip on the opposite side of the room should now be put in place under the same conditions as the first piece, and it should be kept in line with it, and should not be winding but exactly on the same plane, then by use of a straight-edge, which must be long enough to span the space between the two grounds now in place, the thickness of all other grounds may be determined by measuring up from the edge of the straight-edge to the plastered ceiling. It may be necessary to have several thicknesses on the one strip of ground in order to make up for the unequal sagging of the ceiling. The strips should in all cases be nailed on across the joists, and where the joists run in the direction of the longest dimensions of the room, and the metal is arranged to run in the same direction, more strips will be necessary than would be the case if the joists ran across the room, which they generally do. If the plaster on the ceiling is very rotten, the workman should be as careful as he can in trying to prevent it from breaking down, as the more of the original plaster left on the better will be the work;

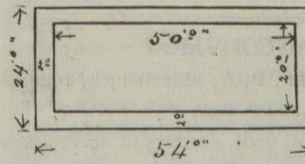
and, as the mortar makes a good non-conductor of sound, it is quite an advantage to the room. When a ground crosses a gas-pipe or an electric wire, it should be notched out or cut in two, leaving a free space for the wire or pipe. There will be other little matters arise, all of which can readily be dealt with by the workman as he meets them. A metal ceiling, while not so nearly artistic as a panelled ceiling in oak, cherry or birch, or as a properly decorated ceiling in plaster, has a beauty of its own, and with the painter's aid may be made quite artistic; and, as it is less costly than any other ceiling having any claim to artistic beauty, and being fire-proof, light and easily applied, it is sure to become quite popular as soon as its good qualities are known, and the prejudices of old-fashioned workmen are removed. Indeed, metal ceilings are already pushing their way into the smaller towns and villages in the country, and bid fair to become as popular as colored glass windows.

In preparing for putting up sheet steel metal wainscot, all the grounds or strips should be brought to a face with a straight-edge and the top ground should be exactly parallel with the line of the floor, and at the proper height to receive the crown moulding or top moulding of the wainscot. This crown mould is generally in a separate piece, and in such lengths as may be required, though this is not always the case, as some manufacturers make the whole panel in one piece, base and top mouldings included. This style is not to be commended, as there are too many butt joints exposed, both on moulding and base, and it requires too much labor at the angles to make the mouldings conform with each other. We are speaking now of putting on wainscot over a plastered wall, in which case it may be found that the wall is not straight by any means, which will necessitate the straightening of it up by means of the grounds, which must be skimmed out in the hollow parts and the plaster removed at points where it bulges out from the wall. The grounds should not be more than $\frac{5}{8}$ of an inch thick when possible, in order to encroach into the room as little as may be. This thickness will be found quite sufficient if the strips are well nailed to every stud they cross, and properly "shimmed" wherever required. If the building is of brick or stone, it will be a wise precaution to nail up against the outer walls a thickness of good felt paper in order to prevent condensation on the metal work, no matter whether the walls have been furred or not. This precaution, if well taken, will prevent moisture or sweating on the wainscot. If the building is new, the inner side of the outer wall should be boarded on the studding or furring, and this should, again, be covered with felt, when the metal work may be attached without further preparation, providing, always, the face of the work is straight and true. The wainscot cap, or crown, should be of sufficient projection to receive the lath and plaster above it and show a bold front in the room. Care must be taken in fitting the metal mouldings in the angles and about the doors and windows, and the workman must be provided with a pair of shears or sharp cold chisel and a couple of files, which he will find useful and not difficult to manipulate. The ordinary workman will find nothing very formidable in the putting up of sheet steel ceilings or wainscotings, and it will be more to his interests, and in the interests of good

taste, to encourage a more extensive use of sheet metal than it is to discourage it, as is done at the present.

QUESTIONS AND ANSWERS.

"BUILDER," Indian Head, N.W.T., writes: Will you kindly answer the following question: How is mason work measured or how would it be measured, in case of a law suit over a dispute on same. We here in this country measure around the outside of a building, while one authority on mensuration shows it as in the accompanying sketch.



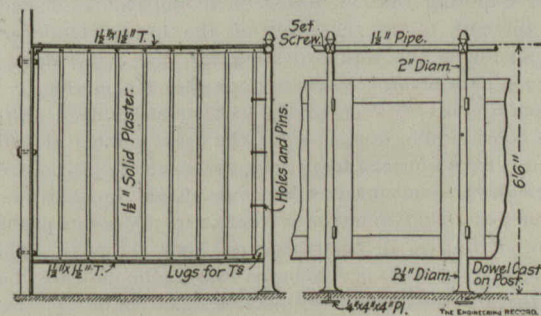
ANSWER.—In measuring stonework in the wall, it is usual in most parts of Ontario to take the whole girt of the outside, bending a tape-line around corners and projections, and multiplying this by the height and thickness of wall, 100 cubic feet of wall measurement making one cord. This method of measurement is allowed for labor alone. If measured for material, the corners are to be deducted, that is to say, a wall 20 feet long, having two side walls entering it, each 2 feet thick, would measure only for material 16 feet long, while the side walls would measure the full length—thus, a building 20 x 40 would measure for material, 112 feet in length, while for labor at so much a cord, it would measure 120 feet. Where a contractor furnishes the stone and lays the wall, he will be entitled to the full measurement of 120 feet. One cord of loose stone of 128 cubic feet will, when laid in the wall, measure about 100 feet. Hence, a mason's cord of stone in the wall is allowed for every 100 cubic feet.

"SUBSCRIBER" asks: Which is considered the better method of putting on shiplap sheeting on studs, diagonal or horizontal?

ANSWER.—It is a disputed point as to whether it is better to nail on sheeting diagonally or horizontally. We are inclined to think that if laid with horizontal joints, tight together, and well nailed to every stud, the work will be as strong and as solid as if put on diagonally, and the economy in material and labor will be quite considerable.

PLASTER PARTITIONS.

Light plaster partitions, $1\frac{1}{2}$ inches thick, have recently been used in toilet and bath rooms planned by Mr. Richard E. Schmidt, of Chicago. The plaster is held by a framework of small steel shapes attached to the wall and to light cast-iron posts. The latter are held at their tops by a small pipe run through them and



fixed with a set screw at every post. The frame reaches to within 10 inches of the floor and is covered with wire lath, not shown in the sketch. Where the frame meets the wall, the plaster is curved out so as to cover the steel shapes and form a good-looking junction

of the two surfaces. The stalls are closed by wooden doors. This type of construction has been used at the Alexian Brothers' hospitals in Chicago and St. Louis. Where the water closets are in groups the partitions have cost \$12.50 per closet, including ironwork, plastering and four coats of enamel paint, but exclusive of woodwork and hardware. Partitions of marble with brass fittings for the same places were estimated to cost \$36 each.

BUILDING IN VANCOUVER.

VANCOUVER, B.C., March 14th, 1900.

To the Editor of the CANADIAN ARCHITECT AND BUILDER:

DEAR SIR,—It may interest some of your readers to have a few particulars regarding the building situation in this city. As you are no doubt aware, a Builders' Exchange was organized here about a year ago. I understand that at the annual meeting held recently the first board of directors was re-elected. Recently several city contractors have joined the Exchange, and I believe the membership now includes what might be termed a working majority of the city builders, and that it is the intention to make some decisive move in the near future with a view to improving the condition of the trade.

The Exchange made an effort to induce the architects of the city to organize and adopt a uniform contract and code of rules to regulate the practice of tendering for and awarding contracts. A few of the architects met and declared themselves in favor of such a move, but too many of them seemed to consider that independence was of more importance than organization. The Exchange, however, is moving along. A code of practice, setting forth the conditions under which the members will tender for work, has been adopted, and I understand that a committee will shortly complete a form of contract. Many of the builders of this city are anxious that a uniform contract should be adopted, as the existing methods of tendering and letting contracts is very unsatisfactory. In asking for tenders the architects frequently ask for bulk and separate bids; competition is very keen, and the result is that one contractor usually takes the entire work, with little or nothing for the risk and responsibility of the minor trades. Occasionally separate tenders are accepted for the erection of a building, but this method sometimes means trouble and delay, and it suits the architect and his client better to find, if they can, some responsible mason or carpenter who, in order to secure the work in his own line, will assume the responsibility of the other trades at about the minimum figure for each as obtained by calling for separate trade tenders.

Another practice in vogue here is that of asking for a second tender. The architect estimates the work too low, with the result that even the lowest tender is refused as being above the estimated cost of the building. Then some small changes are made in the drawings and specifications, and three or four of lowest tenderers are asked to revise their figures. A case of this kind occurred recently. Some brick partitions were changed to wood, and some other small changes made. Second tenders were taken from, I think, five contractors. The result was that the man who was the highest tenderer of these five in the first instance was the lowest when the second figures were opened, and he secured the work. Such practice encourages the taking of work at figures that are very risky, not to say unprofitable and unsatisfactory to the parties concerned. At the last meeting of the Exchange a rule was adopted requiring that the prices of all work added or deducted which amounts to 20 per cent. of the lowest tenderer's bid be adjusted with him, and providing for this being done by arbitration in case his figures are not considered equitable.

Competition is very keen among Vancouver builders. Although there is considerable work in sight, the usual number of bulk bids received is from fourteen to twenty, consequently prices are low. The bricklayers and masons have introduced the eight hour day and have demanded an increase from 50 to 56¼ cents per hour in the rate of wages, to commence on April 1st next. The carpenters ask 33½ cents per hour as the minimum rate, but are willing to work nine hours per day excepting on Saturday, when they want a half holiday. Painters are also asking for more money.

A number of contracts were let during the month of February, and some of them are now well under way. An addition will be built to the Hudson Bay stores, Mr. W. T. Dalton being the architect and Mr. C. P. Shindler the contractor; cost \$25,000. The Sherdahl block of stores, offices, etc., will cost \$19,000. Mr. E. Gunther is architect, and Horrobin & Holdin contractors. An-

other important corner building is the Lovell block, of which Mr. W. T. Whiteway is architect and A. Milliken the contractor.

yours truly,

"CARPENTER."

AMENDMENTS TO PLUMBING BY-LAW.

The Master Plumbers' Association of Montreal, acting in conjunction with the Health Committee of the Council, have prepared important amendments to the plumbing by-law of that city, looking to the appointment of a board of plumbing examiners. The proposed changes, which will be submitted to the city council some time next month, are as follows:

TO THE ALDERMEN OF CITY COUNCIL OF MONTREAL:

DEAR SIR,—We, the master plumbers of the city of Montreal, take this opportunity to make known our views, hoping by doing so to be able to persuade our aldermen to amend our by-law No. 215 concerning plumbing, drainage, and ventilation of buildings, as we would like to keep pace with the principal cities of America in the advancement of sanitary science, and we do hereby urgently request that the members of the city council take steps to place us in an equal position with other cities of our standing, viz:—by appointing a board of plumbing examiners to deal with all matters appertaining to plumbing, drainage, and ventilation of buildings.

1. The board of plumbing examiners is hereby constituted, to consist of one city sanitary engineer, one medical doctor, and three master plumbers. The last three mentioned shall hold office for one year after their appointment and shall be paid a fee of . . . dollars for each session of the board, and this board shall be called together by the city sanitary engineer (who shall be the chairman of the board), and at such times as he may find it necessary.

2. It shall be the duty of the above mentioned board of plumbing examiners to examine master plumbers and journeymen plumbers and grant licenses and certificates to the successful applicants, and to enquire into all charges and disputes arising from the operation or interpretation of any part of this by-law concerning plumbing, drainage, and ventilation of buildings, and to hear and decide disputes arising between the plumbing inspector and the public and said inspector and the master plumbers, and their decision shall be final and conclusive; and it shall be the duty of the chairman of the board to take such necessary action within one week from proper notice to him, in writing, against any person accused.

3. In case of dispute arising relating to any provision of the above mentioned by-law, the party who disputes shall give notice to the sanitary engineer in writing, setting forth the nature of the dispute, and they shall appear before the board of examiners, who shall hear and decide on the merits of the said dispute, and the decision of the said board shall be final and conclusive.

4. The council shall from time to time, as occasion may require, on the recommendation of the board, appoint such inspectors as may be required or found necessary, but no person shall be eligible for such appointment who shall not have passed a satisfactory examination for proficiency in both practice and theory of plumbing and drainage before the board, and such inspector or inspectors shall have full power to act on all matters under this by-law subject only to the board of examiners, and such inspectors shall be under the supervision of the board of health and shall be attached to the office of the sanitary engineer, and shall be paid such salary as the council may determine.

5. Whereas it is desirable and necessary to license and regulate master plumbers in the city of Montreal, therefore we wish the council of the corporation of the city of Montreal to enact as follows: Upon and immediately after passing of this by-law and in every ensuing year before the first of June, any person desiring to carry on the business or trade of plumbing within the city of Montreal, shall take out a license, for which license such person shall pay at the time of issuing thereof the sum of twenty-five dollars (\$25.00) except as hereafter mentioned, and no person shall receive such a license unless he is of the full age of twenty-one years, and in no case shall a license be granted to any person unless he carries on the business or trade of plumbing and has a place of business for such.

6. That he is himself a practical plumber and that he will not permit or allow any plumbing work to be done by or for himself in connection with his business except by competent workmen having passed their examination before the board of plumbing examiners, and that he will not violate any of the terms, conditions, rules or regulations contained in this by-law No. 215 respecting plumbing, drainage and sanitary matters.

7. That every person desiring such license shall file with the board a petition in writing giving the name of the applicant, and in case of a partner-

ship the name of each member therein, together with the place of business, and asking to become a licensed plumber.

8. Any change in the firm or location of the business shall be properly reported to the board, and that the license shall be at all times in a conspicuous place at the place of business, and no license shall be transferable.

9. All master plumbers shall be held responsible for all work done by their employees in connection with the business for which this license is issued, and upon satisfactory evidence furnished to the board that any master plumber has been twice convicted for the violation of this by-law or any part of this by-law respecting plumbing, drainage and sanitary matters, that the said board of plumbing examiners declare the said license forfeited.

10. Any master plumber whose license shall be declared forfeited as herein before mentioned, shall not again be entitled to a license until the said declaration of forfeiture shall be revoked by the board of plumbing examiners.

11. No person shall do plumbing or carry on the business of plumbing unless he is the holder of a license issued as hereinbefore mentioned to himself or to the partnership of which he is a member.

12. All persons working as journeymen plumbers shall pass a satisfactory examination before the board of plumbing examiners, and receive a certificate within three calendar months after this becomes law, and no master plumber shall employ plumbers or any person to do plumbing work who shall not have passed a satisfactory examination before the board of plumbing examiners, and no journeyman plumber shall carry on the business or trade of plumbing on his own behalf before he first obtains a license as a master plumber.

All master plumbers carrying on the business of plumbing in the city of Montreal at the time of this becoming law shall be granted a license on applying and paying for the same within three (3) calendar months of this becoming law, but all applicants in the future shall pass a satisfactory examination before the board of plumbing examiners before a license shall be granted.

Signed on behalf of the Master Plumbers' Association of Montreal.

LEGAL.

REG. V. TORONTO PUBLIC SCHOOL BOARD.—Judgment by the Divisional Court at Toronto on motion by defendants to quash a conviction of defendants, who were charged with an infringement of by-law No. 2,478 (particularly sec. 13), by permitting closets to be fitted up under the Smead-Dowd system and used in a building contrary to the by-law. The Police Magistrate for the city of Toronto, though the case seemed clearly within the by-law, refused to convict on the ground that the municipality had in this case sanctioned the violation of the by-law. The defendants were, however, on appeal to sessions, convicted, and, having obtained an order nisi then, made this motion. Held, that the information and complaint in this case being for an offence against a by-law of the City of Toronto, passed under the authority of the municipal act, R.S.O., ch. 223, sec. 551, the criminal code, part 8, sec. 840, does not apply; so that the authority, if any, for an appeal to General Sessions from an order of dismissal, must be found in the Ontario summary convictions act, R.S.O., ch. 90, and "conviction or order," in sec. 7 of that act means one of or against the party against whom the information and complaint is laid. Order as there used does not mean order of dismissal. It is for the Legislature to so construe the word if they desire. The words of sec. 105 of the imperial act 5 and 6 Will. IV., ch. 50, are much stronger in favor of an appeal from an order of dismissal than sec. 7 of the Ontario act, yet in Reg. v. Keepers, etc., of London, 25 Q.B.D., 357, the court held that they did not include an order of dismissal. Conviction quashed without cost.

MURPHY V. HUTCHINS.—This was an appeal to the Court of Review at Montreal, from the Circuit Court for \$19.60, and rested on the interpretation to be placed on 59 Vic., Cap. 42, otherwise known as the Auge Workmen's Lien Act, which creates a privilege upon immovables for the claims of workmen, the suppliers of materials and others who contribute to the construction of buildings. Defendant gave a contract to one Wand for the erection of a house on the property of the former. Plaintiff, with other workmen, whose claims are now in abeyance until the present issue is finally determined, were engaged by the contractor to work upon the building. The judgment complained of by defendant condemned him to deliver up his property to be sold in due course of law unless he paid the wages due plaintiff by Wand within fifteen days. These workmen were in the habit of receiving their wages on the Saturday of each fortnight. The last payment was made on the 17th of September, 1898. On the 26th want of material caused a stoppage of the work. Wand failed to

pay his workmen either then or on the 1st of October. On the 7th fifteen of them, including plaintiff, verbally demanded their overdue wages from defendant, who refused to pay on the ground that he owed his contractor nothing. On the 10th a written notice was served upon him setting forth the number of hours worked, the rate per hour, and the resulting amount due to each of them. This notice, if followed by registration, would have constituted a mortgage on the property in favour of each of the parties signing it. It was agreed, however, among all the parties concerned that registration of this document should be waived, without any right being thereby prejudiced. The assertion of defendant that he owed nothing to the contractor at the sale of either notice is not controverted. He declared his readiness to personally assume responsibility for their future wages and to hold any surplus which might thereafter become payable to the contractor for the extinguishment of overdue wages. The offer was not accepted, and he, in turn, refused to pay again what he had already paid to the contractor. Mr. Justice Davidson reviewed the law on the subject, and came to the following conclusions: "Thus, while the previous law required unpaid workmen to give notice to the proprietor for each term of payment due them, the amendment required it to be given at and for each term of payment due them. It was the evident intention of the Legislature to impose the condition that the proprietor should be instantly warned of the default of his contractor. This is a very rigorous law. It imposes upon one person the duty of looking after the debts of another, under pain of finding his property burdened with a number of mortgages, and must, in regard to the formalities and notices required, be strictly construed. Building operations are unquestionably hampered by its provisions; care must be taken that they are not made impossible. At the very latest, the wages of the complaining workmen were due on the 1st of October, and notice of the contractor's default might easily and ought to have been given to the proprietor on the 2nd; whereas it only reached the proprietor, and even then, informally, on the 7th. All manner of difficulties and disputes might arise between the proprietor and contractor if a delay of this kind were to receive judicial recognition. If there may be seven days, why not fourteen? And in the interval, is the proprietor to be upheld in refusing to pay his contractor or architect's certificates, on the plea that he stands exposed to mortgages which may still be registered against him? Uncertainty of this kind might, on the one hand, expose the one to a suit of law, and the other to possible ruin, and prejudice the interest of the workmen themselves. We, therefore, reverse the judgment under review and dismiss plaintiffs action with costs, Lavergne, J., dissenting."

EFFECT OF SEA WATER ON MORTARS.

SOME interesting observations relative to the action of sea water on mortars are contributed by E. Caudlot, whose investigations in the harbor of La Rochelle cover a period of something like 40 years. Blocks of 60 cm. (2.36 inches) in length were exposed to the open sea from 1856 to 1875, and were above the water surface at low tide. The mortars were of hydraulic limes of different origin, of natural cements from Pouilly, Vassy, &c.; of artificial pozzuolanas mixed with lime and sand; of trass from Andernach, &c. Nearly all blocks had completely lost their cohesion after different periods. The few blocks of Portland cement experimented upon were in good condition; but blocks of neat cement (English and French) were decomposed. From these tests Viennot draws the following conclusions: 1. Neat cements are destroyed more rapidly than mortars of a certain composition; 2. mortars made of one volume of cement to one of sand, and, again, of one volume of cement to two of sand, are those which offer the greatest resistance to sea water. They will last for 20, 36 and 38 years.

Thurninger commenced new tests with blocks of masonry, and concrete made of lime and Speil mortar, with a length of edge of 40 cm. (about 1.6 inches). In 1895 the masonry blocks disappeared, their destruction having commenced four years after their exposure, and out of 32 concrete blocks only 26 remained, but they were in advancing decomposition. In 1880 other tests were commenced on blocks submerged, of various limes. Many of these have perished. "Out of 31 masonry blocks laid in Portland cement mortar, and submerged between 1881 and 1892, 23 are still intact, while some have commenced to disintegrate." Viennot points to the following conclusions: 1. Mortars of hydraulic lime, mixed in any proportion, in most cases commence to disintegrate after one or two years' immersion in sea water—they crumble into pulp after periods varying in length, but apparently not exceeding 15 years; 2. concrete resists better than masonry, owing to the greater density imparted to it by ramming; 3. rapid setting cements may commence to disintegrate after six or eight years, but may last longer than 38 years without crumbling; 4. the mortars offering the greatest resistance are those consisting of one part cement to one or two parts sand. This mixture corresponds to the weight of cement required to fill the spaces between the grains of sand. These, therefore, are the least porous mortars.

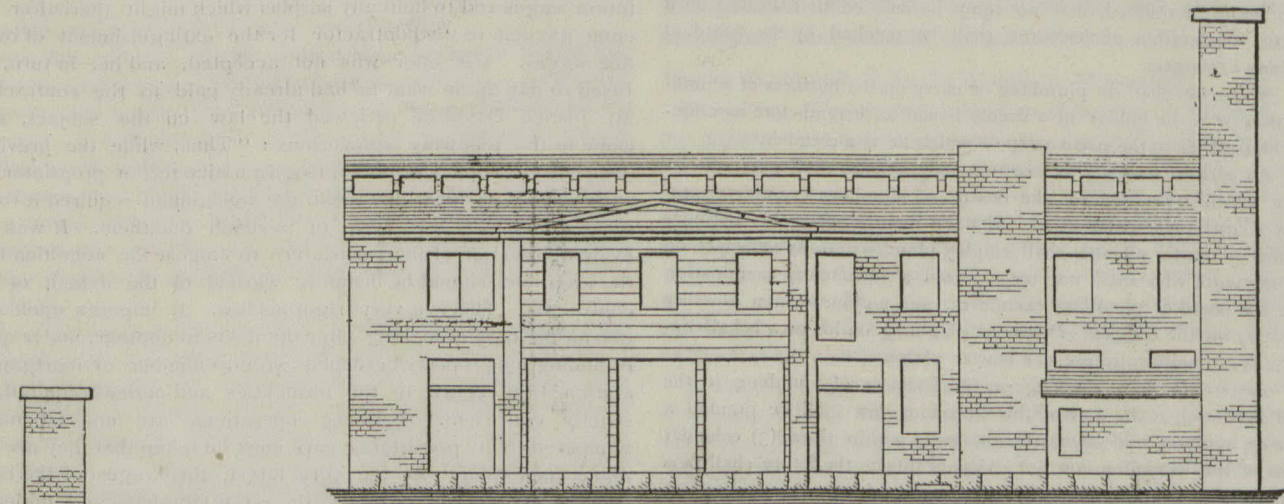
DESIGN FOR A PLANING MILL.

A CORRESPONDENT of Carpentry and Building sends the accompanying drawings of a planing mill, concerning which he says :

As being of interest to the correspondent in question, and possibly to other readers of the paper, I send floor plans and elevations of a mill that I prepared about three years ago for a person who contemplated erecting a new mill near Philadelphia. In the present instance it will be seen that I have tried to arrange the machinery in the mill in such a way as to be most convenient.

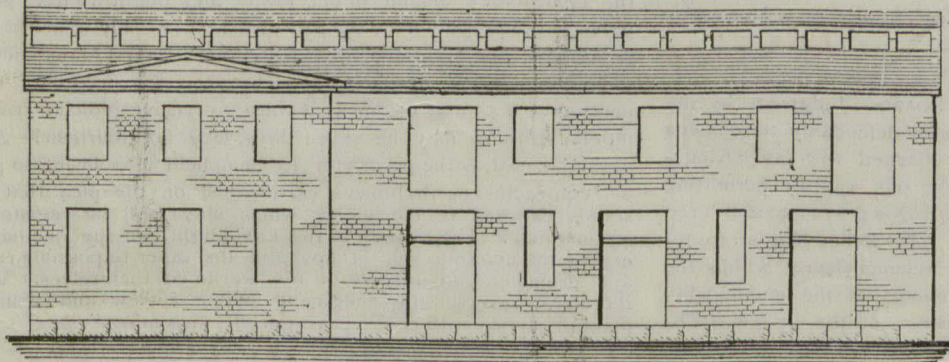
machine with 7-inch cutter, No. 13 a rip saw and No. 14 a swing cut-off saw.

On the second floor, B B, etc., are work benches. No. 15 is a light mortise machine, No. 15 a rip saw, No. 17 a sash and shutter clamp, No. 18 a tenoning machine, No. 19 a horizontal boring machine, No. 20 a sand papering machine, No. 21 a molding machine, No. 22 a blind slat tenoning machine, No. 23 a jig saw, No. 24 a light band saw, No. 25 a cylinder sand papering machine, No. 26 a single surface planer, No. 27 a boring machine, No. 28 a jointer with 16-inch cutter,



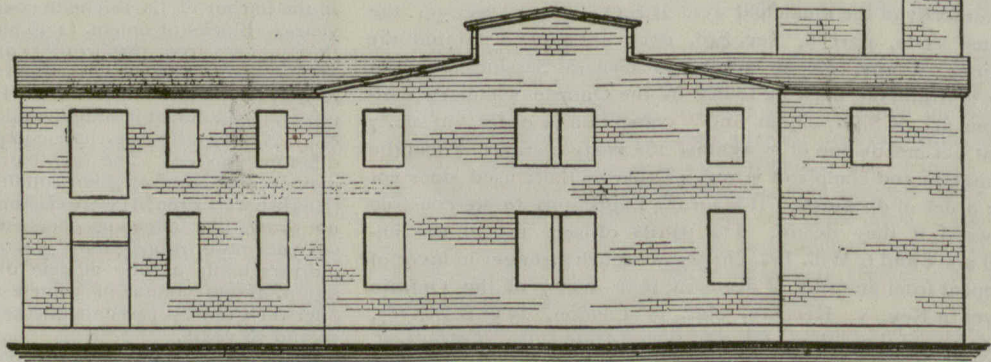
Scale, 3-64 Inch to the Foot.

DESIGN FOR A PLANING MILL.—
SIDE (RIGHT) ELEVATION.



Scale, 3-64 Inch to the Foot.

DESIGN FOR A PLANING MILL.—SIDE (LEFT) ELEVATION.



Scale, 3-64 Inch to the Foot.

DESIGN FOR A PLANING MILL.—FRONT ELEVATION.

Referring to the floor plans, it will be seen that the machines are numbered, as they can be more readily indicated in this manner, and by less confusion than by writing the name of each one on the drawing.

In connection with the first floor plan, A A, etc., are work benches. No. 1 is a pulley stile mortiser, No. 2 a jointer with 14-inch cutter, No. 3 a Universal saw bench, No. 4 a molding machine with 6-inch cutter, No. 5 a rip saw, No. 6 a heavy band saw, No. 7 a molding machine with 10-inch cutter, No. 8 a swing cut-off saw, No. 9 a large rip saw, No. 10 a double surface planer, No. 11 a rip saw, No. 12 a molding

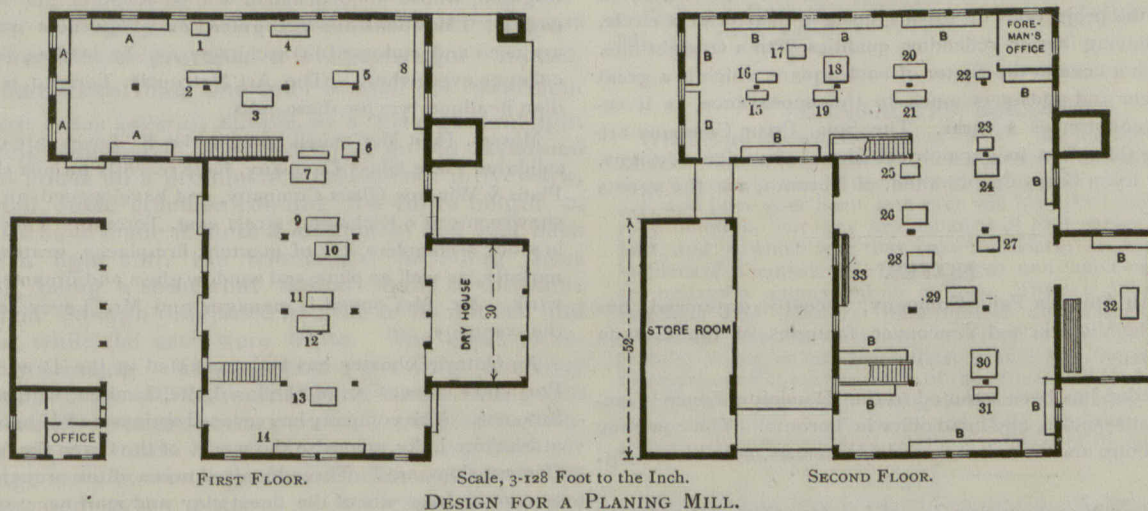
No. 29 a Universal saw bench, No. 30 a tenoning machine, No. 31 a mortising machine, No. 32 a door clamp and No. 33 a turning lathe.

The engine, it will be noticed, is placed in the basement in order to get it as near as possible to the center of its work. There is also a machine shop in the basement, as it is supposed that the engineer will have time to repair the machines, make bits and sharpen the knives. He has all his work in the basement, and is able to watch his engine at the same time. The floor of the boiler room is level with the floor of the basement, so as to make it convenient to the engine. It

will be noticed that there is a dry-kiln on one side of the main building opening into the main floor at one end, while the other end opens to the railroad track at the side. The room is laid with pipe on the floor, and heated by the exhaust steam from the engine. The room over the dry kiln, opening on the second floor, is used for glueing purposes, and is fitted with glue pans and pots. There is a coil pipe for heating veneers, also a veneer press and a large door clamp.

The building is arranged for the frame makers to

and materials, but discovered that the property had been heavily mortgaged, and that his lien would probably bring him no return. Under these circumstances, acting, it is said, on the advice of counsel, he took a rather heroic resolution, and making his appearance on the ground one evening, with a building mover and sixty men carrying suitable implements, he had the house lifted from its foundations and rolled away to another lot in the neighborhood. When the other party to the contract arrived on the scene, he was, to say the



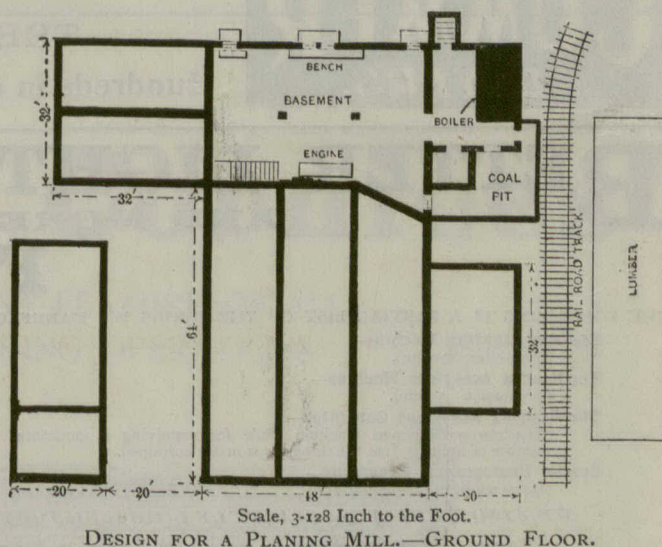
work on the first floor in the "L" of the building, and for the heavy machine work, such as cutting out, planing and working moldings, to be done in the main part of the building. On the second floor of the "L" are made the sash, outside blinds and shutters, and here also are the inside blind makers, the work of the different divisions extending into the main building. The balance of the space on the second floor is intended to be occupied by door makers, stair workers, bulks, etc. An inspection of the second floor plan shows that there is an office for the foremen and his draftsmen, which is to be enclosed by sash, so that observation can be made of what is going on in the mill. At the left of the main building are the offices and warerooms, which are built two stories high to correspond with the other structures.

To run a mill of this size to its full capacity would require a bookkeeper; a man to estimate, one to make out orders and make measurements, a main foreman and his assistant, an engineer, a teamster, and 35 mechanics, both bench and machine hands. I trust that what I have given may be of some benefit to the readers of the paper, and I would be glad to hear from any of them on this topic through the columns of the paper.

COLLECTION OF BUILDERS' ACCOUNTS.

A MASSACHUSETTS builder has applied a novel remedy for the collection of debts due him. Not long ago a contractor agreed to build a wooden house on a lot in the village of Norfolk Downs. When the house was ready for plastering he applied to the owner for a payment on account. Receiving no satisfactory answer, he concluded to put a lien on the estate for his work

least, displeased, and proceeded to enter complaint against the builder for larceny of the house, under a provision of the statutes, which applies to the purloining of real estate the same penalties as those which attach to the stealing of personal property. The contractor and the building mover have been notified to appear for trial, and the case promises to be an inter-



esting one. Obviously, the important point involved is whether the house, which, although technically attached to the real estate, has been paid for by the contractor, was the property of the owner of the lot in such a sense as would make it larceny to carry it away; and a good deal of argument can be expended on this question.

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AGENTS FOR CANADA

MANUFACTURES AND MATERIALS

NEW SOLAR PRISM GLASS.

We have been shown a sample of a new prism or reflecting glass, manufactured and patented by the Solar Prism Co., of Cleveland. The manufacturers claim it to be better than any other now in use. It is quite natural to suppose that, considering the demand for such glass, some one would improve on the glass now in use. They claim it to be the best, and principally on account of the projections or prisms being a quarter of a circle, the curve having better reflecting qualities than a straight line. There is also a cone in the center of each square which is a great light producer and adds very much to the appearance, as it relieves the monotonous squares. The Solar Prism Company are also making this glass in geometrical forms of various designs. The N. T. Lyon Glass Co., Limited, of Toronto, are the agents for Canada.

NOTES.

The British America Paint Company, recently organized, has purchased the Victoria and Vancouver factories of the Canada Paint Company.

Incorporation has been granted to the Dominion Fence Company, capital \$750,000, and head office in Toronto. The company will manufacture and trade in iron and wire fences, metallic roofing, and siding.

The McClary Manufacturing Co., of London, Ont., have elected officers as follows: John McClary, president; W. M. Gartshore, vice-president and manager; George McClary, treasurer; J. K. H. Hope, secretary.

The Thomas Robertson Company, of Montreal, are placing on the Ontario market their "Sirdar" hot water boiler, and have ap-

pointed Mr. George Craig, 88 Bay street, as their Toronto agent. This boiler has been selling for some time throughout the eastern provinces, where it has been given a very favorable reception.

Mr. T. C. Larney has formed a syndicate to develop the marble deposits in the vicinity of Shoal Bay, near Vancouver, B. C. It is said that the marble of this deposit is superior to any yet found in British Columbia, and that it will prove a great acquisition to the beauty of the buildings of the coast cities. The syndicate have opened an office in the Fairfield block, Vancouver.

We have received samples of "Chin-Chin" and "Pelican" water-proof drawing inks manufactured by Mr. Harry Steuber, of London, England, whose announcement will be found in our advertising pages. These inks are recognized as of excellent quality, and are used and endorsed by architects and by leading schools and colleges everywhere. The Art Metropole, Toronto, is the Canadian headquarters for these inks.

Messrs. John McConnell and Charles E. Levey, late of the Consolidated Plate Glass Company, have recently formed the Canada Plate & Window Glass Company, and have opened an office and showrooms at 9 Richmond street east, Toronto. They will carry in stock a complete line of mantels, fire-places, grates, tiles, and mosaics, as well as plate and window glass and ornamental leaded work. Mr. McConnell is manager and Mr. Levey secretary of the company.

An Ontario charter has been granted to the Grey and Bruce Portland Cement Co., of Shallow Lake, Limited, with a capital of \$199,000. The company has secured options on five hundred acres at Shallow Lake, opposite the works of the Owen Sound Portland Cement Company. Three hundred acres of the property are said to contain deposits of the finest clay and marl necessary for the manufacture of cement, and it is proposed to erect works with an output of five hundred barrels of cement per day. The head office of the company is to be in Owen Sound, and the directors are: James McLaughlan, Owen Sound; John George, Port Perry; J. R. Spence, Warton; Joseph Young, Park Head; and J. E. Campbell, Hepworth.



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PAINTING OF HOUSES.

There seems to be some tendency to do away with the use of a distinctive color for the trimmings for outside painting. I have noticed a number of houses, recently painted, in which a light shade of green or gray has been used over the entire house, body, trim, and even the sash, though the outside blinds have been painted a bronze green, the only contrasting color used. Sometimes the sash are a lighter shade or else white. The effect is very quiet and restful and in strong contrast with the gingerbread combinations of numerous colors that were so prevalent a few years ago. Indeed, even where more than one color is used the treatment is in most cases severely simple, as a rule a general light tone being employed. For example, an old fashioned Colonial house on a prominent street corner in Newark, whose tall, Ionic columns running the entire height of the house have made it quite a landmark, has just been painted a light buff, the trimmings, including these columns, being a somewhat lighter shade of the same color, just enough difference in tone to be noticed and no more, while the sash were white. The effect is remarkably pleasing. There is also a growing tendency to go back to the old fashioned white house with green blinds, which certainly seem peculiarly adapted to locations where the house is half hidden by heavy trees, or for village streets, where green branches over-arch the roadway, and green patches of lawn lead up to the houses. In general it may be said that the use of trimming colors darker than the body color of the house has almost been abandoned, the few cases where this is done looking singular and old fashioned. It seems proper, too, that they should be lighter in color, because as a rule they are projecting surfaces, and it would seem contrary to reason to paint a projecting surface with a receding color, yet this is what is done when the trimming color is darker than the body.

ART MUSEUM PROJECT.

The proposal to erect in the city of Toronto a public art museum has taken definite shape. At a meeting of persons interested, held a fortnight ago, the following committee was appointed to take steps to form an Art Museum Association: Messrs. B. E. Walker, J. B. Murray, Prof. Mavor, G. A. Reid, and E. F. B. Johnston. This committee was authorized to appoint a provisional council to prepare a constitution and to apply for a charter. The members of the provisional council will be the charter members of the association, and the action taken by them will come before a meeting to be called at a later date by the convener of the committee, Mr. G. A. Reid.

CHARACTER BUILDING.

What is all the world doing at once? My answer is, Building. I admit that a large part of them, probably the great majority, do not know it, and have never thought of it. Yet building they are, and have ever been, and ever will be. Ay! and not only are they builders, but they are builders of that which they love the best, and in which way they have the nearest interest; they are builders of themselves. In this great and universal trade there are no trades unions and no strikes. There is no distinction of employer and laborer. Bankruptcies and failures, I fear, there are many. Be that as it may, let every man—high and low, rich or poor, young or old, the loftiest genius and the veriest dunce, the most careful husbandman of the gifts which God has entrusted to him, and the most profligate and abandoned gambler—let them all know, at all times, and in all conditions and circumstances, they are builders, and are builders of themselves.

The Georgian Bay Portland Cement Co., of Owen Sound, have decided to increase their capital stock from \$95,000 to \$250,000 and to enlarge their plant to double its present capacity.

Samuel Cabot, of 70 Kilby street, Boston, Massachusetts, manufacturer of an insulating and deafening "Quilt," calls attention in a booklet to several school houses in different parts of the country where the material has been used with marked success. As before noted in these columns, the material is made of eel-grass quilted between layers of manila paper or asbestos, as the requirements may demand. The character of the buildings shown in the booklet mentioned indicate that nothing of an inferior or questionable character was employed.

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Mr. H. R. Cluff, a well known contractor, died in Ottawa recently.

Mr. P. Lacroix, building inspector of Montreal, has tendered his resignation.

The bricklayers in Hamilton have decided to ask for 38 cents per hour as wages, to take effect July 1st.

The Maritime Clay Works Co., of Pugwash, Nova Scotia, have purchased from the government a locomotive and rails for the equipment of a railway to connect their works with their clay deposits.

Mr. John Higman, president of the Ottawa Master Plumbers' Association, was recently presented with a loving cup by the members of that association. Mrs. Higman was given a beautiful tea service.

Mr. Edward Gold, of Vancouver, B. C., has been granted a patent in Canada for a wood preserving compound, consisting of crude petroleum, lime, asphaltum, cement, brimstone, crude creosote and asbes-

tos mixed together and heated in a vessel and applied to the wrapper, which is wound on the timber and then treated to a covering of sand.

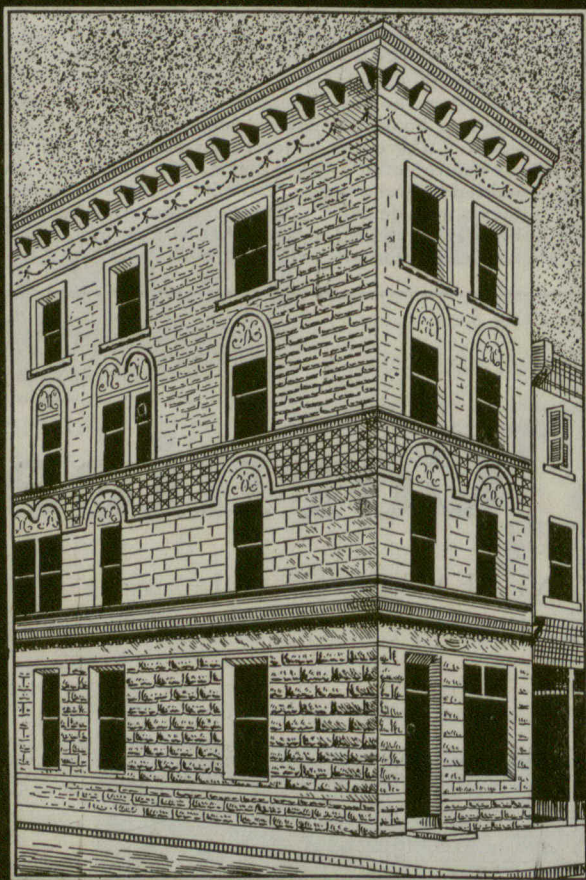
In the Review of Reviews for April the new phases of the situation in South Africa are editorially discussed, while the department of "Leading Articles of the Month" summarize various points of view relatives to the war and its probable outcome.

The board of arbitrators in connection with the suit brought by the Bishop of Nicolet against Paquet & Godbout, contractors, of St. Hyacinthe, for damages owing to the collapse of the Catholic cathedral at Nicolet, have given their decision. The contractors are condemned to refund the Bishop of Nicolet his actual outlay on the building, amounting to \$42,299.59, but the Bishop's claim for \$12,000 damages is not allowed.

"Hand-Railing Simplified" is the title of

a valuable work, by Fred T. Hodgson, architect, of Collingwood, published by Wm. T. Comstock, 23 Warren street, New York. The book treats the art of hand-railing on the Sectorian system, being a novel method of finding the curves, bevells, cuts and ramps for hand-railing over circular and elliptical stairs. This method, it is pointed out, does away to a great extent with the mystifying lines and references necessary to build a hand-rail by any of the old systems. Bound in cloth, the price is one dollar.

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